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FEDERAL - STATE - PRIVATE  
COOPERATIVE

**SNOW SURVEY and WATER SUPPLY FORECASTS  
for  
NEVADA**

UNITED STATES DEPARTMENT of AGRICULTURE--SOIL CONSERVATION SERVICE.  
and

NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES  
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above  
in cooperation with the Federal, State and private organizations listed  
on the last page of this report.

AS OF  
MAR. 1, 1961

# UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

## PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
<b>RIVER BASINS</b>			
COLORADO AND STATE OF UTAH			
COLORADO AND STATE OF UTAH	MONTHLY (JAN. MAY)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER AND OTHER AGENCIES
COLUMBIA	MONTHLY (JAN.-MAY)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
UPPER MISSOURI AND STATE OF MONTANA	MONTHLY (FEB.-MAY)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
WEST-WIDE	OCT. 1, APR. 1, MAY 1	PORTLAND, OREGON	ALL COOPERATORS
<b>STATES</b>			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN. 15 - APR. 1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. AGR. EXP. STATION COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (FEB.-MAY)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
NEVADA	MONTHLY (FEB.-APR.)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-MAY)	PORTLAND, OREGON	ORE. AGR. EXP. STATION OREGON STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-MAY)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB. JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER
Copies of these various reports may be secured from: Head, Water Supply Forecasting Section Soil Conservation Service. 209 S. W. Fifth Ave., Portland 4, Oregon			

## PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	COMPTROLLER, WATER RIGHTS BR., DEPT. OF LANOS AND FORESTS PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, SACRAMENTO, CALIF.

FEDERAL - STATE - PRIVATE  
COOPERATIVE  
**SNOW SURVEY and WATER SUPPLY FORECASTS**  
**for**  
**NEVADA**

*Report prepared by*

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ROY E. MALSOR, JR.

SOIL CONSERVATION SERVICE  
1479 WELLS AVENUE.....RENO, NEVADA

FEBRUARY 8, 1961

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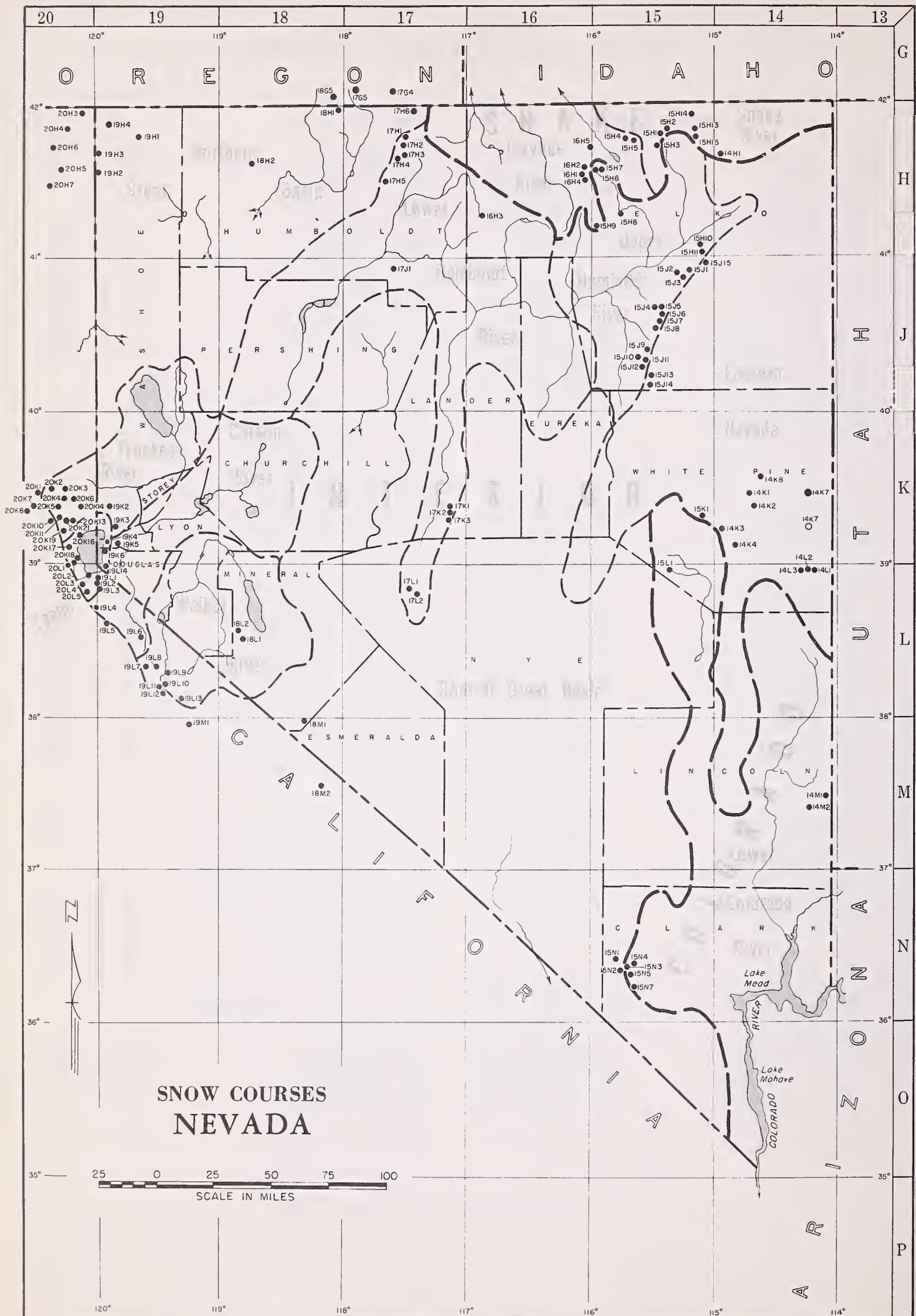
## TABLE OF CONTENTS

	PAGE
MAP AND INDEX OF NEVADA SNOW COURSES.....	FACING PAGE 1
BRIEF STATEWIDE SUMMARY.....	1
SUMMARY OF FORECASTS.....	2
SUMMARY OF RESERVOIR STATUS.....	3
GRAPHICAL SNOW COVER COMPARISON.....	PLATE 1
WATER SUPPLY CONDITIONS IN:	
NORTH TRUCKEE, FERNLEY & WASHOE VALLEY SCD'S, WASHOE, STOREY, & LYON COUNTIES.....	PLATE 2
CARSON VALLEY SCD, NEVADA & ALPINE SCD, CALIFORNIA.....	PLATE 3
STILLWATER, SHECKLER, LAHONTAN SCD'S & VICINITY, CHURCHILL COUNTY.....	PLATE 4
SMITH & MASON VALLEY SCD'S, NEVADA & EAST WALKER & MONO COUNTY SCD'S, CALIFORNIA.....	PLATE 5
ESMERALDA SCD, ESMERALDA COUNTY.....	PLATE 6
CENTRAL & SOUTHERN NEVADA, CLARK, LINCOLN, & NYE COUNTIES.....	PLATE 7
WHITE PINE SCD, WHITE PINE, LINCOLN & NYE COUNTIES.....	PLATE 8
CLOVER & RUBY SCD'S ELKO COUNTY.....	PLATE 9
NORTHEAST ELKO SCD, ELKO COUNTY.....	PLATE 10
DUCK VALLEY & Owyhee SCD's, ELKO COUNTY.....	PLATE 11
HUMBOLDT RIVER.....	PLATE 12
AUSTIN & EUREKA SCD'S, EUREKA & LANDER COUNTIES.....	PLATE 13
PARADISE VALLEY & QUINN RIVER SCD'S.....	PLATE 14
VYA SCD, NEVADA & SURPRISE VALLEY SCD, CALIFORNIA.....	PLATE 15
LIST OF COOPERATORS.....	INSIDE BACK COVER



# INDEX to NEVADA SNOW COURSES

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.	NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.						
<b>SNAKE RIVER BASIN</b>																	
<b>SNAKE RIVER</b>																	
15H 1	BEAR CREEK	31	46N	58E	7800	18M 2	CAMPITO MTN	19	55	35E	10200						
15H 4*	BIG BENO	30	45N	56E	6700	15N 2	CLARK CANYON	8	19S	56E	9000						
15H 2	FOX CREEK	33	46N	58E	6800	18G 6*	DENIO CREEK A.M. (OREG.)	14	41S	34E	6000						
15H 13	GOAT CREEK	31	46N	60E	8800	18M 1	MONTGOMERY PASS	4	1N	33E	7100						
15H 5*	GOLO CREEK	31	45N	56E	6600	15N 1	TROUGH SPRINGS	23	18S	55E	8500						
15H 15	HUMMINGBIRD SPRINGS	6	45N	60E	8945	<b>CENTRAL GREAT BASIN</b>											
14H 1	JAKES CREEK	6	42N	62E	7000	19H 1	BALO MOUNTAIN	17	45N	21E	6720						
15H 14	POLE CREEK RANGER STATION	13	46N	59E	8330	20H 5	BARBER CREEK	23	39N	16E	6500						
15H 3	76 CREEK	6	44N	58E	7100	20H 6	CEOAR PASS	12	43N	14E	7100						
<b>O W Y H E E R R I V E R</b>																	
15H 4	BIG BENO	30	45N	56E	6700	18H 1	OISASTER PEAK	8	47N	34E	6500						
15H 7*	FRY CANYON	31	43N	54E	6700	20H 3	OISMAL SWAMP A.M.	31	48N	22E	7000						
15H 5	GOLO CREEK	31	45N	56E	6600	20H 7	EAGLE PEAK	35	40N	15E	8300						
17H 4*	GRANITE PEAK	22	44N	39E	7800	19H 3	49-MTN	7	42N	19E	6000						
16H 4	JACKS PEAK	28	42N	53E	8420	19H 2	HAYS CANYON	1	39N	18E	6400						
16H 5	LAUREL DRAW	20	45N	53E	6700	18H 2	LEONARO CREEK	13	42N	28E	5900						
17G 4	LOUSE CANYON A.M. (OREG.)	27	40S	44E	6440	19H 4	MOSQUITO LAKE A.M.	8	45N	19E	6000						
17H 2*	LOWER BUCKSKIN	25	45N	39E	6700	17G 5	OREGON CANYON A.M. (OREG.)	9	40S	40E	7240						
16H 1	LOWER JACK CREEK	18	42N	53E	6800	17H 6	QUINN RIOGE A.M.	9	47N	41E	6300						
17H 3*	MARTIN CREEK	18	44N	40E	6700	20H 4	RESERVATION CREEK	12	46N	15E	5900						
15H 6*	ROOEO FLAT	36	43N	53E	6800	18G 5*	TROUT CREEK A.M. (OREG.)	10	41S	38E	7800						
15H 9	TAYLOR CANYON	35	39N	53E	6200	<b>NORTHERN GREAT BASIN</b>											
15H 8*	TREMEWAN RANCH	9	39N	55E	5700	19H 1	BALO MOUNTAIN	17	45N	21E	6720						
17H 1*	UPPER BUCKSKIN	11	45N	39E	7200	20H 5	BARBER CREEK	23	39N	16E	6500						
16H 2	UPPER JACK CREEK	9	42N	53E	7250	20H 6	CEOAR PASS	12	43N	14E	7100						
<b>INTERIOR</b>																	
<b>UPPER HUMBOLOT RIVER</b>																	
15H 1*	BEAR CREEK	31	46N	58E	7800	19L 14	OAGGETTS PASS	19	13N	19E	7350						
15H 4*	BIG BENO	30	45N	56E	6700	20L 5	(CAL.) ECHO SUMMIT	6	11N	18E	7500						
15J 12	CORRAL CANYON	27	28N	57E	8500	19K 2	(CAL.) FREEL BENCH	36	12N	18E	7300						
15J 1	OORSEY BASIN	28	35N	60E	8100	19K 6	GLENBROOK #2	13	14N	18E	6900						
15J 3	DRY CREEK	5	34N	60E	6500	19L 3	(CAL.) HAGANS MEAOOW	36	12N	18E	8000						
15H 2*	FOX CREEK	33	46N	58E	6800	20L 4	(CAL.) LAKE LUCILLE	28	12N	17E	8400						
15H 7	FRY CANYON	31	43N	54E	6700	19K 4	MARLETTE LAKE	13	15N	18E	8000						
15H 5*	GOLO CREEK	31	45N	56E	6600	19K 2*	MT. ROSE	7	17N	19E	9000						
15J 9	GREEN MOUNTAIN	23	29N	57E	8000	20L 3	(CAL.) RICHAROSONS #2	6	12N	18E	6500						
15J 10	HARRISON PASS #1	9	28N	57E	6600	20L 1	(CAL.) RUBICON #1	6	13N	17E	8100						
15J 11	HARRISON PASS #2	16	28N	57E	7400	20L 2	(CAL.) RUBICON #2	6	13N	17E	7500						
15J 4	LAMOILLE #1	15	32N	58E	7100	20K 16	(CAL.) TAHOE CITY	6	15N	17E	6250						
15J 5	LAMOILLE #2	14	32N	58E	7300	20K 17	(CAL.) WARD CREEK	21	12N	18E	6400						
15J 6	LAMOILLE #3	24	32N	58E	7700	<b>TRUCKEE RIVER</b>											
15J 7	LAMOILLE #4	19	32N	59E	8000	20K 14	(CAL.) BOCA #2	28	18N	17E	5900						
15J 8	LAMOILLE #5	31	32N	59E	8700	20K 11	(CAL.) DONNER LAKE #1	14	17N	15E	5950						
16H 1*	LOWER JACK CREEK	18	42N	53E	6800	20K 21	(CAL.) DONNER PARK #2	3	16N	16E	6000						
15H 10	LOWER TROUT CREEK	28	37N	61E	6900	20K 10*	(CAL.) DONNER SUMMIT	25	17N	14E	6900						
15H 6	ROOEO FLAT	36	43N	53E	6800	20K 7*	(CAL.) FOROYCE LAKE	34	18N	13E	6500						
15J 2	RYAN RANCH	1	34N	59E	5800	20K 8*	(CAL.) FURNACE FLAT	10	17N	13E	6600						
15H 3*	76 CREEK	6	44N	58E	7100	20K 4	(CAL.) INOEPENOENCE CAMP	34	19N	15E	7000						
15H 9*	TAYLOR CANYON	35	39N	53E	6200	20K 3	(CAL.) INOEPENOENCE CREEK	14	19N	15E	6500						
15H 8	TREMEWAN RANCH	9	39N	55E	5700	20K 5	(CAL.) INOEPENOENCE LAKE	9	18N	15E	8450						
16H 2*	UPPER JACK CREEK	9	42N	53E	7250	19K 3	LITTLE VALLEY	17	16N	19E	6300						
15H 11	UPPER TROUT CREEK	4	36N	61E	8500	19K 2	MT. ROSE	7	17N	19E	9000						
<b>LOWER HUMBOLDT RIVER</b>																	
17K 1	BIG CREEK CAMP GROUND	10	17N	43E	6600	20K 6	(CAL.) SAGE HEN CREEK	7	18N	16E	6500						
17K 2	BIG CREEK MINE	23	17N	43E	7600	20K 19	(CAL.) SOUAW VALLEY #2	6	15N	16E	7500						
17J 2	GOLCONOA #2	22	35N	39E	6000	20K 16*	(CAL.) TAHOE CITY	6	15N	17E	6250						
17H 4	GRANITE PEAK	22	44N	39E	7800	20K 13	(CAL.) TRUCKEE #2	22	17N	16E	6400						
17H 5	LAMANCE CREEK	13	42N	38E	6000	20K 17*	(CAL.) WARD CREEK	21	15N	16E	7000						
17H 2	LOWER BUCKSKIN	25	45N	39E	6700	20K 2	(CAL.) WEBBER LAKE	20	19N	14E	7000						
17L 1	LOWER CORRAL	12	11N	40E	7500	20K 1*	(CAL.) WEBBER PEAK	30	19N	14E	8000						
17H 3	MARTIN CREEK	18	44N	40E	6700	<b>CARSON RIVER</b>											
16H 3	MIOAS	18	39N	46E	7200	19L 5	(CAL.) BLUE LAKES	30	9N	19E	8000						
17K 3	UPPER BIG CREEK	26	17N	43E	8000	19K 5	CLEAR CREEK	6	14N	19E	7300						
17H 1	UPPER BUCKSKIN	11	45N	39E	7200	19L 6	(CAL.) POISON FLAT	25	8N	21E	7900						
17L 2	UPPER CORRAL	20	11N	41E	8500	19L 4	(CAL.) UPPER CARSON PASS	22	10N	18E	8600						
<b>EASTERN NEVADA</b>																	
14L 1	BAKER #1	29	13N	69E	7950	19L 11	(CAL.) BUCKEYE FORKS	20	4N	23E	8500						
14L 2	BAKER #2	30	13N	69E	8950	19L 10	(CAL.) BUCKEYE ROUGHS	15	4N	23E	7900						
14L 3	BAKER #3	25	13N	68E	9250	19L 12	(CAL.) CENTER MOUNTAIN	4	3N	23E	9400						
14K 2	BERRY CREEK	26	17N	65E	9100	18L 1	LAPON MEAOOW	36	8N	28E	9000						
14K 1	BIRO CREEK	34	19N	65E	7500	19L 8	(CAL.) LEAVIT MEAOOWS	4	5N	22E	7200						
15J 3	CAVE CREEK	25	27N	57E	7500	18L 2	MT. GRANT	23	8N	28E	9000						
15J 14	HAGER CANYON	34	27N	57E	8000	19L 7	(CAL.) SONORA PASS	1	5N	21E	8800						
15J 15	HOLE-IN-MTN	6	35N	61N	7900	19L 13	(CAL.) TIOGA PASS	30	1N	25E	9900						
14K 8	KALAMAZOO CREEK	34	20N	65E	7400	19L 9	(CAL.) VIRGINIA LAKES	5	2N	25E	9500						
14K 3	MURRAY SUMMIT	25	16N	62E	7250	19L 9	(CAL.) WILLOW FLAT	21	5N	23E	8250						
15K 1	ROBINSON SUMMIT	34	18N	61E	7600	<b>COLORADO</b>											
14K 7	SILVER CREEK #2	30	16N	69E	8000	15N 5	KYLE CANYON	26	19S	56E	8200						
14K 5	WARO MOUNTAIN #2	25	15N	62E	7875	15N 4	LEE CANYON #1	10	19S	56E	8300						
15L 1*	WHITE RIVER #1	31	13N	59E	7400	15N 3	LEE CANYON #2	9	19S	56E	9000						
<b>LOWER COLORADO RIVER</b>																	
4	LOCATED ON ADJACENT WATERSHED A. M. AERIAL SNOW DEPTH GAGE.					14M 1	MATHEW CANYON	11	5S	70E	6000						
						14M 2	PINE CANYON	11	6S	69E	6200						
						15N 7	RAINBOW CANYON #2	6	20S	57E	8100						
						15L 1	WHITE RIVER #1	31	13	59E	7400						



WATER SUPPLY OUTLOOK  
FOR NEVADA

March 1, 1961

## STREAMFLOW FORECASTS

Irrigation season water supply forecasts as of this date assuming normal snow-fall in March and normal spring precipitation range from a high of 64 percent of the April-July normal for Lamoille Creek near Lamoille to lows for April-July of 15 percent normal for Carson River at Ft. Churchill and 22 percent of normal for Humboldt at Palisade. Most streams are forecast to flow from 35-45 percent of normal during April-July.

Streams heading on the east slopes of the Sierra Mountains from the Walker River to the Truckee River are forecast to flow at or near longtime record lows for April-July. Previous low years have occurred as single low years in between years of normal to above normal runoff. Nowhere in the record has a year like this year been preceded by two extremely poor years namely 1959 and 1960.

The Truckee Forecast Committee forecasts a rise of 0.60 foot from April 1 for Lake Tahoe which with gates closed would allow the Lake to reach an elevation of 6224.7. April-July flow of the Truckee River and the Little Truckee is forecast to be 42-43 percent of average (1943-57).

Streamflow in the Walker River Basin is forecast to be 23 percent of the April-August normal on the East Walker and 44 percent of normal for the April-July period on the West Walker. Carson River forecasts range from highs of 45 and 46 percent of the April-July normal on the east and west fork stations, respectively, to lows of 24 percent and 15 percent for the Carson at Carson City and Ft. Churchill.

In the Humboldt-Owyhee watersheds during April-July Martin Creek near Paradise is forecast at 47 percent normal, Owyhee River near Owyhee at 38 percent normal, Lamoille Creek near Lamoille at 64 percent, South Fork Humboldt River near Elko at 47 percent normal and Humboldt River at Palisade at 22 percent normal.

#### RESERVOIR STORAGE

Storage in Nevada's principal reservoirs is extremely poor except for Wild Horse which is 108 percent of normal. None will fill, in fact the amounts stored in them will only partially alleviate this spring and summers irrigation water supply deficiencies.

As of March 1, 1961 these reservoirs held only 24 percent of capacity and 58 percent of average. Rye Patch is 5 percent of capacity holding 9,000 acre feet. Lahontan holds 92,000 acre feet which is 32 percent of capacity. Topaz with 13,000 acre feet has never been this low since March 1, 1932. Bridgeport with 11,000 acre feet in storage has never been this low on March 1 since 1932. Lake Tahoe was at 6223.85 on March 1; the lowest for this date since 1935.

#### SOIL CONDITIONS

Soil moisture conditions are better than they were a year ago due to good fall rains. Soil moisture has improved during the winter months in median and high mountain soils; due to snow melt which occurred during the 60 days (Dec.-Jan.) when very little snow fell and air temperatures were unseasonably high.

Range conditions are rated fair but good spring precipitation will be needed to sustain forage growth which has already started in many areas of the State.

#### SNOW COVER

March 1, 1961 water content of snow is one of the poorest for this time of year on record. Many snow courses have March 1 water contents which are at or near record low. Only a few snow courses in the Humboldt basin have 70-80 percent of normal water content. Elsewhere 40-50 percent of normal is the situation. State-wide the snowpack averages less than 50 percent of normal.

Even with normal March snowfall most snow-fed river basins would have only 60 percent of normal on April 1. Water content of snow at median mountain elevations is notably poorer than usual. Winter melt has exposed many slopes at elevations up to 8,000 feet not usually bare until May or June. This melt although improving soil moisture conditions has not appeared as winter streamflow to any marked extent.

#### WATER CONSERVATION

Nevada's ranchers and farmers, in fact all water users, should make every effort to obtain maximum use of the limited water supply. They are urged to put into action all water conservation practices applicable to their operations. Contact your local Soil Conservation Technicians, County Agents, Irrigation District Managers and Federal and State water officials for recommendations and suggestions.

NEVADA STREAMFLOW FORECASTS - MARCH 1, 1961

The following summarized runoff forecasts are based principally on mountain snow cover and the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts.

Forecast Stream	April-July, Streamflow Thousands			Acre Feet	
	Forecast 1961	15-Yr. Av.	1961 as % of 15-Yr. Av.	Measured Runoff	
		1961	1943-57	1960	1959
Owyhee River nr. Gold Creek, Nev. <sup>1</sup>	9	27	33	14	7
Owyhee River nr. Owyhee, Nev. <sup>1</sup>	33	86	38	43	16
Lamoille Creek nr. Lamoille, Nev.	18	28	64	19	13
So. Fk. Humboldt nr. Elko, Nev.	35	74	47	28	10
Humboldt River at Palisade, Nev.	50	225	22	63	20
Martin Creek nr. Paradise, Nev.	8	17	47	10	6
East Walker nr. Bridgeport, Cal. <sup>2</sup>	14	61	23	18	18
West Walker below E. Fk. nr. Coleville, Cal.	65	148	44	82	81
East Carson nr. Gardnerville, Nev.	85	189	45	91	96
West Carson at Woodfords, Cal.	25	54	46	28	27
Carson River nr. Carson City	45	184	24	50	55
Carson River at Ft. Churchill	25	171	15	30	40
Little Truckee River above Boca, California <sup>5</sup>	37	86*	43	41	32
Truckee River at Farad, Cal. <sup>3, 5</sup>	108	255	42	147	109
Lake Tahoe <sup>4</sup> , 5	.60	1.50	40	0.54	0.44
Salmon Falls Creek nr. San Jacinto, Nevada	50** 48***	88 85	57 56	64 62	36 33

1. Corrected for storage in Wild Horse Reservoir.

2. For period April through August corrected for storage in Bridgeport Reservoir.

3. Exclusive of Tahoe and corrected for storage in Boca Reservoir.

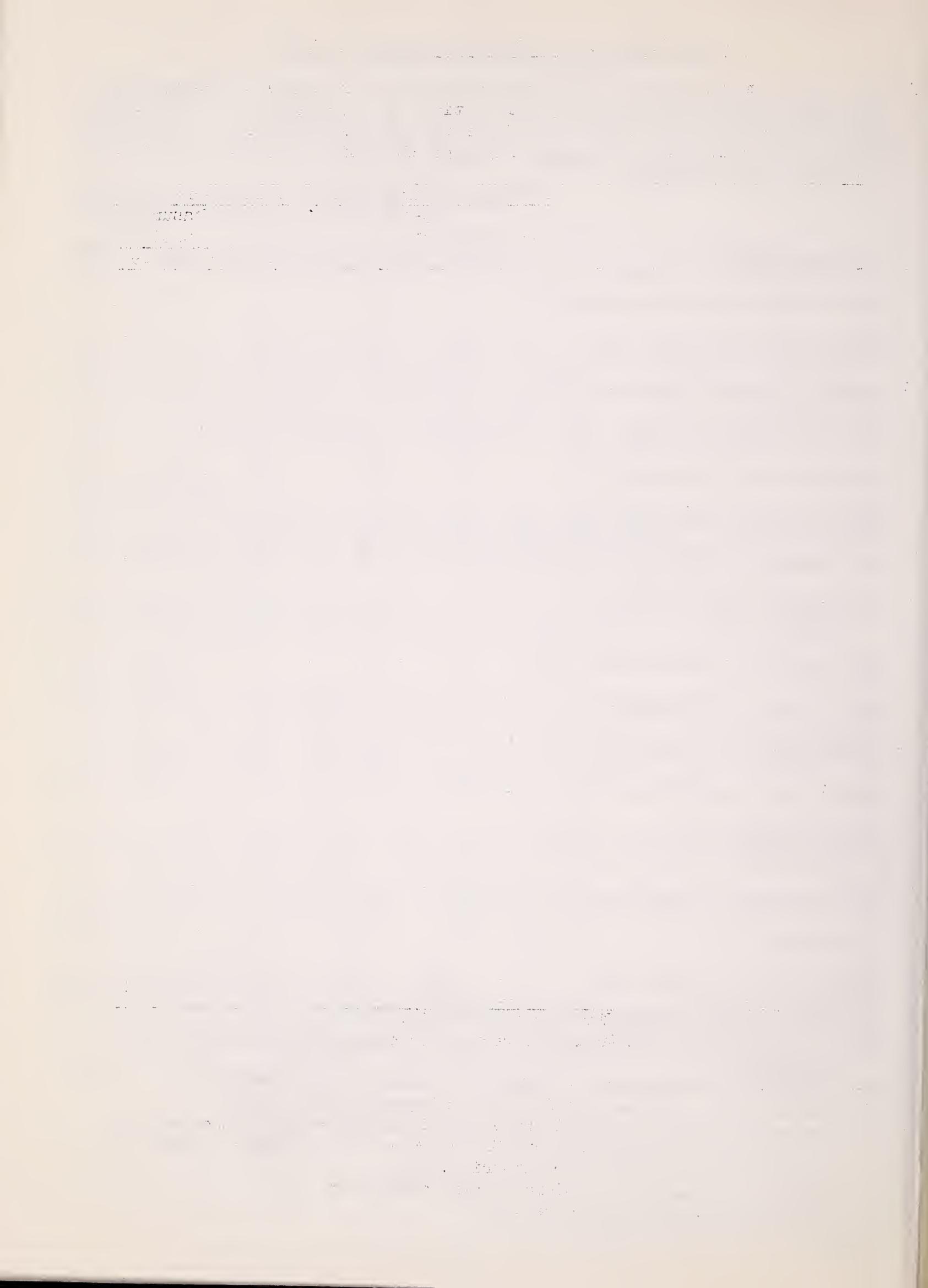
4. Maximum rise, in feet, from April 1, assuming gates closed.

5. Forecast issued by Truckee Basin Water Committee which is composed of Truckee-Carson Irrigation District, Sierra Pacific Power Company and Washoe County Water Conservation District.

\* Subject to change due to questionable streamflow data.

\*\* Forecast period of March-September.

\*\*\* Forecast period of March-July.



NEVADA  
 STATUS OF RESERVOIR STORAGE  
 MARCH 1, 1961

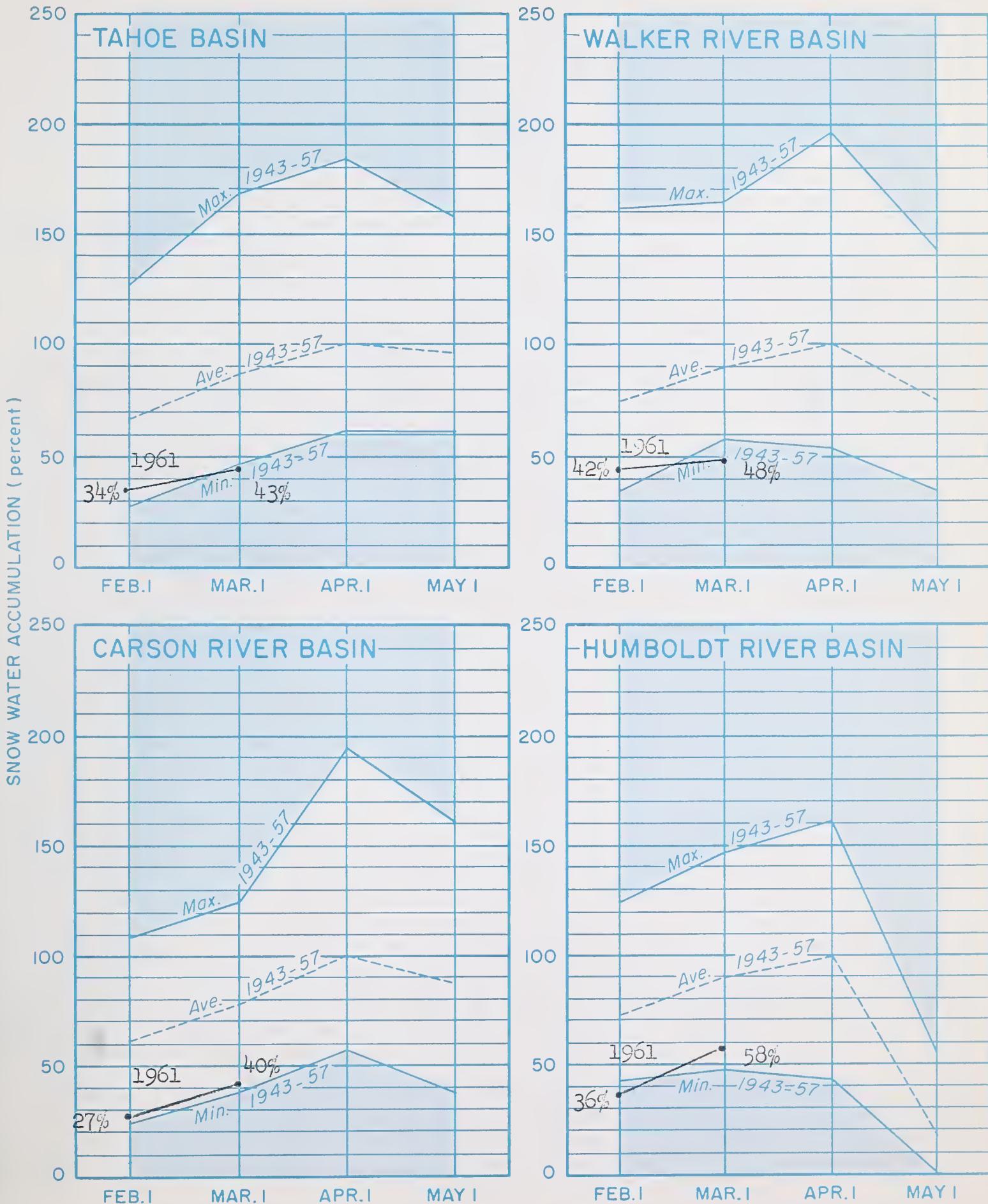
BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (1000 AF)	USABLE STORAGE - 1000 ACRE FEET			
			1961	1960	1959	MARCH 1 15-YR. AVE. 1943-57
Owhyee	Wild Horse	33	14	10	22	13
Lower Humboldt	Rye Patch	179	9	26	120	103
Colorado	Mohave	1,810	1,702	1,728	1,696	1,467*
Colorado	Mead	27,217	18,755	19,124	21,194	16,929
Tahoe	Tahoe	732	105	291	563	465
Truckee	Boca	41	10	5	2	6
Carson	Lahontan	286	92	127	237	215
West Walker	Topaz	59	13	16	52	42
East Walker	Bridgeport	42	11	19	42	33

\* Storage began in 1950.

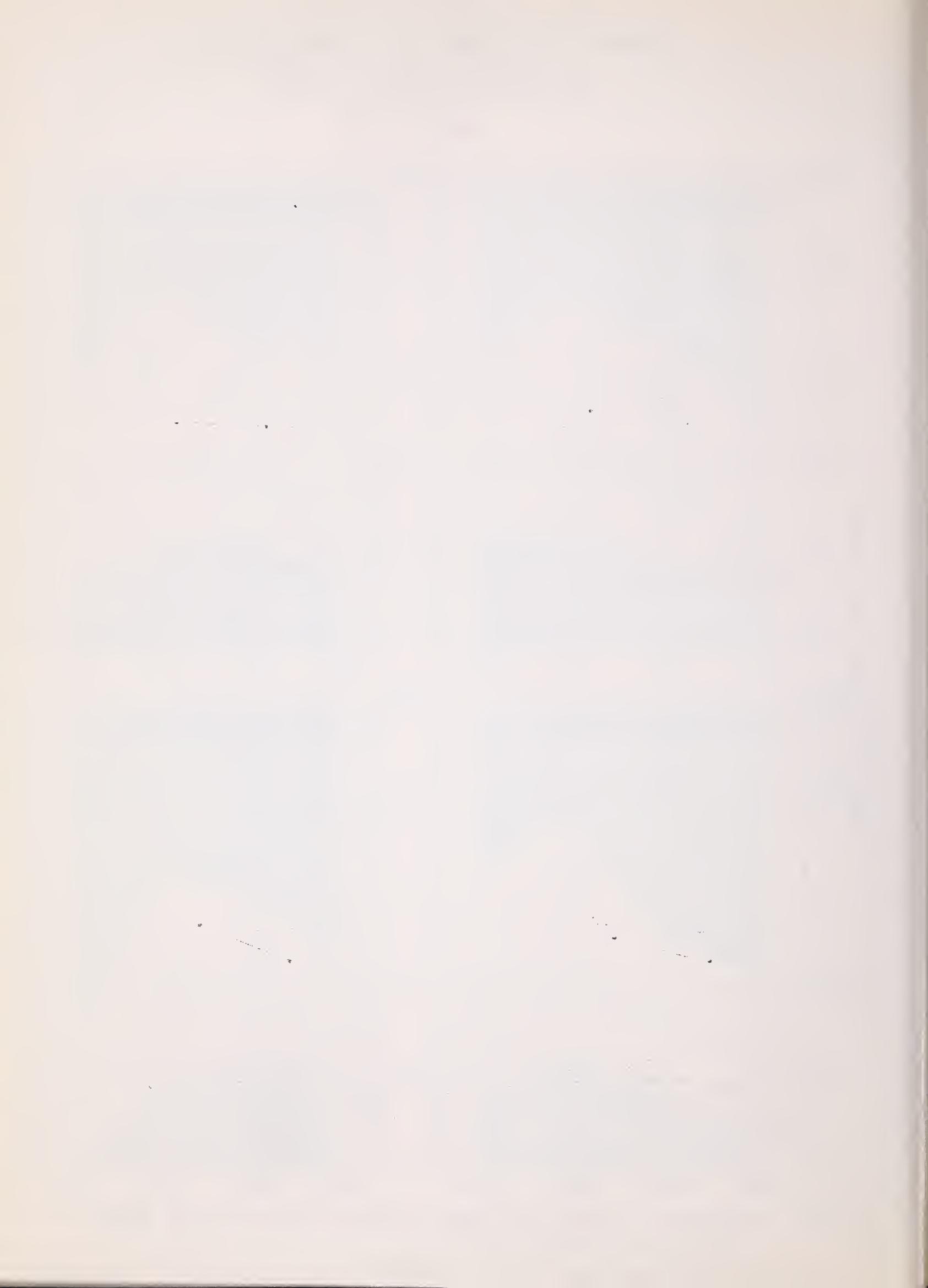


# SNOW WATER ACCUMULATION in NEVADA by BASIN

MARCH 1, 1961



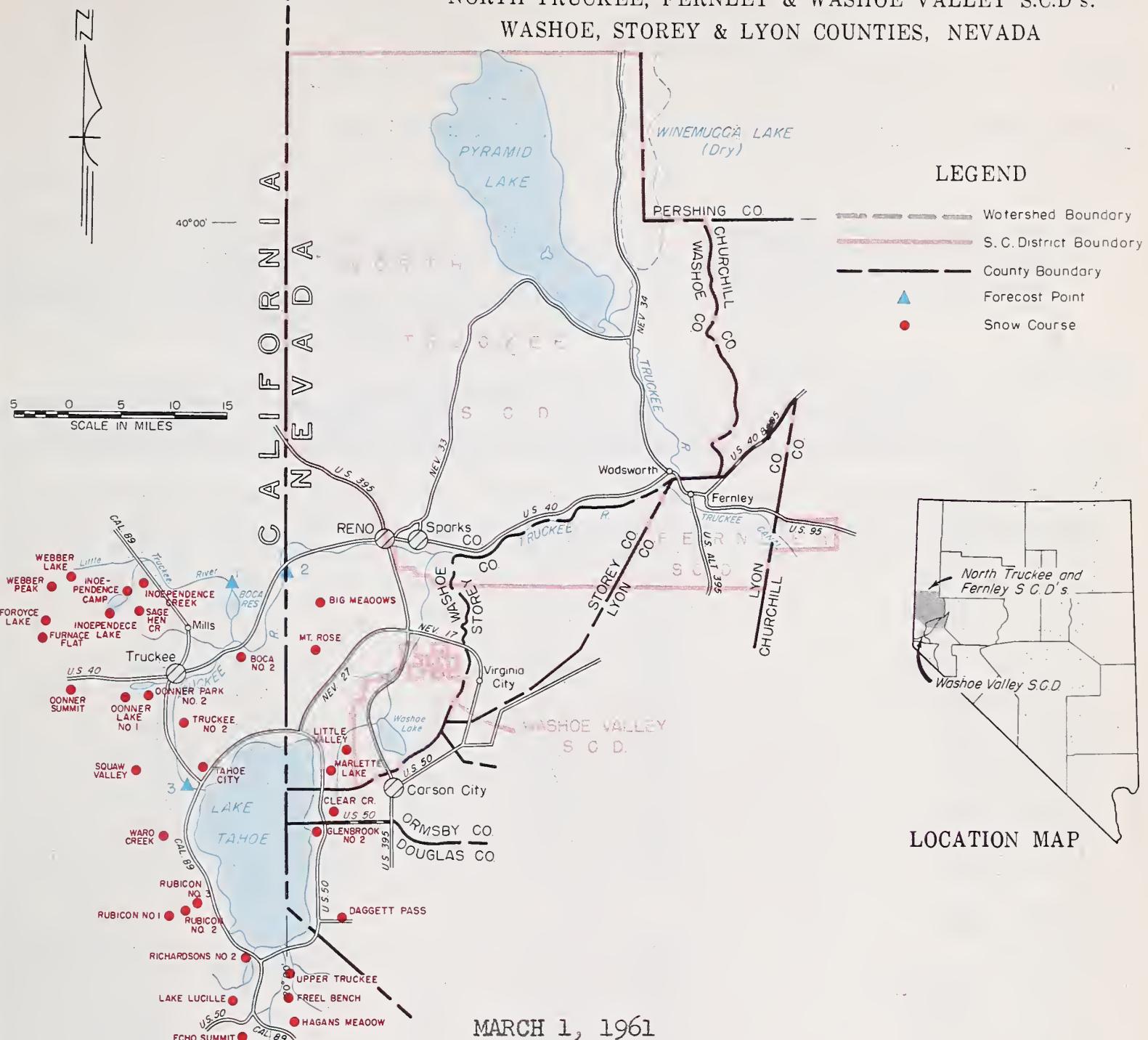
Note: On February 1 Carson River Basin incorrectly shown as 36%, should have been 27% as now shown.



# SNOW SURVEY & WATER SUPPLY FORECAST

NORTH TRUCKEE, FERNLEY & WASHOE VALLEY S.C.D.'s.

WASHOE, STOREY & LYON COUNTIES, NEVADA



Water users served from Tahoe-Truckee basin streams will have a much below normal irrigation season water supply in 1961. The present mountain snowpack is only 50 percent of normal for this time of year. Even with normal March snowfall the basin will be only slightly above 50 percent of normal on April 1.

The Truckee Basin Water Committee forecasts that Lake Tahoe will rise 0.60 foot (40 percent normal) from April 1 through the runoff period. The March 1 elevation of Lake Tahoe was 6223.85. With normal inflow of 0.20 foot during March plus 0.60 foot from April 1, the Lake would rise to 6224.7 maximum elevation if gates were kept closed. March 1 storage was 105,000 acre feet less than 25 percent of average and 14 percent of capacity.

The Committee forecasts Truckee River at Farad to flow 108,000 acre feet during April-July or 42 percent of normal. Little Truckee above Boca should yield 27,000 acre feet during April-July or 43 percent of normal. This amount of water will provide very little storage for Boca reservoir which held 10,000 acre feet on March 1, 1961.

(Continued on attached sheet)

**STORAGE (1,000 Ac. Ft.)**

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Boca	41	10	5	6
Lake Tahoe	732	105	291	465

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

### APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
1. Little Truckee River above Boca	37	41	86*
2. Truckee River at Farad, Calif.	108	147	255
3. Lake Tahoe rise (In ft. from Apr. 1 assuming gates closed)	0.60	0.54	1.50

Note: Above forecast prepared by Truckee Basin Water Committee

\* Subject to change.

## SNOW

MARCH 1, 1961

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	
NAME	ELEVATION						
<b>LAKE TAHOE</b>							
Daggetts Pass	7350	2/27	7	2.2	5.4	10.7	14
Echo Summit	7500	2/28	42	14.3	21.1	33.6	15
Freel Bench	7300	2/28	10	5.0	8.6	13.3	8
Glenbrook #2	6900	3/4	19	5.7	6.9	13.2	12
Hagans Meadow	8000	2/28	21	7.6	13.5	21.2	7
Little Valley	6300	2/28	4	1.6	7.7	-	4
Marlette Lake	8000	2/27	34	11.4	13.4	20.5	15
Richardsons #2	6500	3/4	25	7.4	11.4	14.1	10
Rubicon #1	8100	2/26	68	22.4	31.8	42.7	5
Rubicon #2	7500	2/26	39	12.7	19.9	26.9	6
Rubicon #3	6700	2/26	28	8.4*	15.3	19.1	5
Tahoe City	6250	3/1	T	T	9.8	11.7	15
Upper Truckee	5400	2/28	6	2.8	6.9	10.1	12
Ward Creek	7000	3/1	56	21.6	29.8	41.4	13
<b>TRUCKEE RIVER</b>							
Boca #2	5900	3/2	0	0.0	6.1	8.4	10
Donner Park #2	6000	3/2	21	7.2	13.5	-	0
Donner Summit	6900	3/1	39	15.8	28.6	33.8	15
Fordyce Lake	6500	2/28	40	19.2	29.3	33.1	14
Furnace Flat	6600	2/28	52	21.4	31.3	39.7	14
Independence Camp	7000	3/2	28	9.5	16.2	19.0	13
Independence Creek	6500	3/2	14	5.0	10.3	11.7	11
Independence Lake	8450	3/2	52	18.8	27.5	28.0	7
Sage Hen Creek	6500	3/3	21	7.2*	13.7	17.4	14
Squaw Valley #2	7500	2/24	57	21.8	38.9	-	3
Truckee #2	6400	3/3	19	6.1	11.4	16.5	9

(Continued from Plate 2)

The mountain snow water conditions as of March 1, which were 43 percent of the April 1 normal, and the low level of holdover storage in Lake Tahoe and other reservoirs indicate that the Floristan rates cannot be maintained beyond June even if the precipitation is normal for the rest of the season.

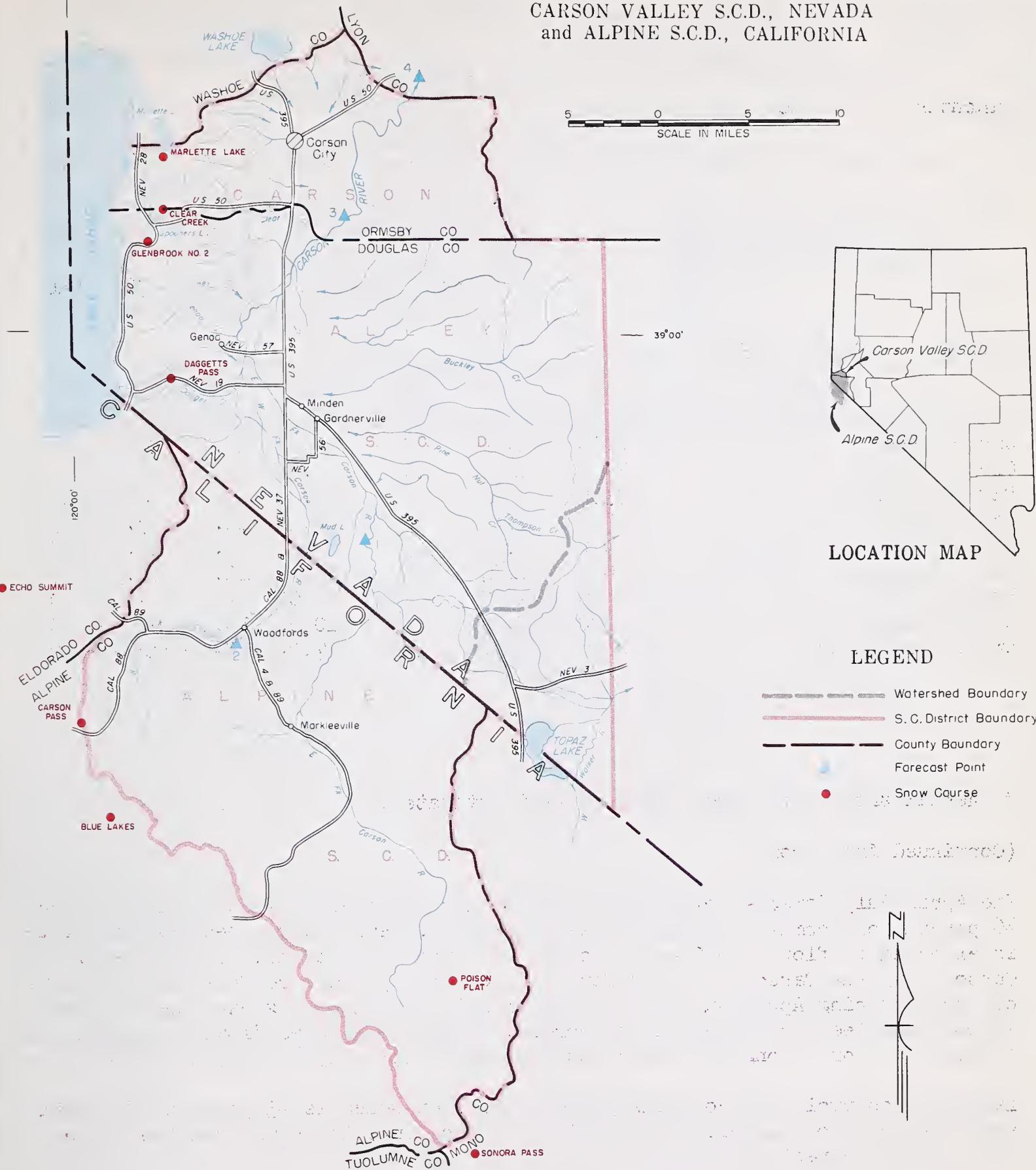
It is very likely that there will be irrigation water shortages along the Truckee River during July, August and September. The extent of the shortage depends upon temperatures and precipitation experienced during the coming months.

Irrigation water users should make plans as to how to best utilize the limited irrigation water supplies anticipated. For specific recommendations and suggestion contact Mr. Duane Collins, Work Unit Conservationist, Soil Conservation Service, Reno, Nevada.



# SNOW SURVEY & WATER SUPPLY FORECAST

CARSON VALLEY S.C.D., NEVADA  
and ALPINE S.C.D., CALIFORNIA



MARCH 1, 1961

Water users in Carson Valley are faced with another year of critically low irrigation season water supplies. The March 1, 1961 mountain snowpack is 69 percent of last year and 45 percent of the 1943-57 normal.

The lack of snow-stored water in the Carson watershed is even more striking at elevations below 7500 feet where it is only 39 percent of normal. Even with normal snowfall during March there will be only 55 percent of an April 1 or normal winters accumulation in the mountains on April 1.

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Lahontan	286	92	127	215

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
1. East Carson near Gardnerville	85	91	189
2. West Carson at Woodfords, Calif.	25	28	54
3. Carson River near Carson City	45	50	184
4. Carson River at Ft. Churchill	25	30	171

## SNOW MARCH 1, 1961

SNOW COURSE	CURRENT INFORMATION			PAST RECORD			YEARS OF RECORD
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
						LAST YEAR	NORMAL
Carson Pass	8600	2/27	43	14.0	22.7	28.2	15
Clear Creek	7300	2/28	14	5.5	8.4	14.5	9
Daggetts Pass	7350	2/27	7	2.2	5.4	10.7	14
Echo Summit	7500	2/28	42	14.3	21.1	33.6	15
Glenbrook 1/2	6900	3/4	19	5.7	6.9	13.2	12
Marlette Lake	8000	2/27	34	11.4	13.4	20.5	15
Poison Flat	7900	2/20	28	9.0*	-	-	0
Sonora Pass	3800	2/24	33	10.8	14.9	20.5	5
Upper Fish Valley	8050	2/20	22	7.0*	New Course		0

\* Aerial snow depth gage; water content estimated.

(Continued from front)

The April-July forecast of the West Carson at Woodfords is 25,000 acre feet or 46 percent of normal. During the same period the East Carson near Gardnerville is expected to flow 85,000 acre feet or 44 percent of normal. Downstream at Carson City the Carson River is forecast to flow 45,000 acre feet or 24 percent of normal during April-July. At Ft. Churchill the Carson is expected to flow 25,000 acre feet or 15 percent of normal. These forecasted flows rank among the lowest of record along with years such as 1924, 1931, 1934, 1959 and 1960.

Lahontan Reservoir now contains 92,000 acre feet which is 43 percent of normal and 32 percent of capacity. Very little inflow into Lahontan from the Carson River can be expected.

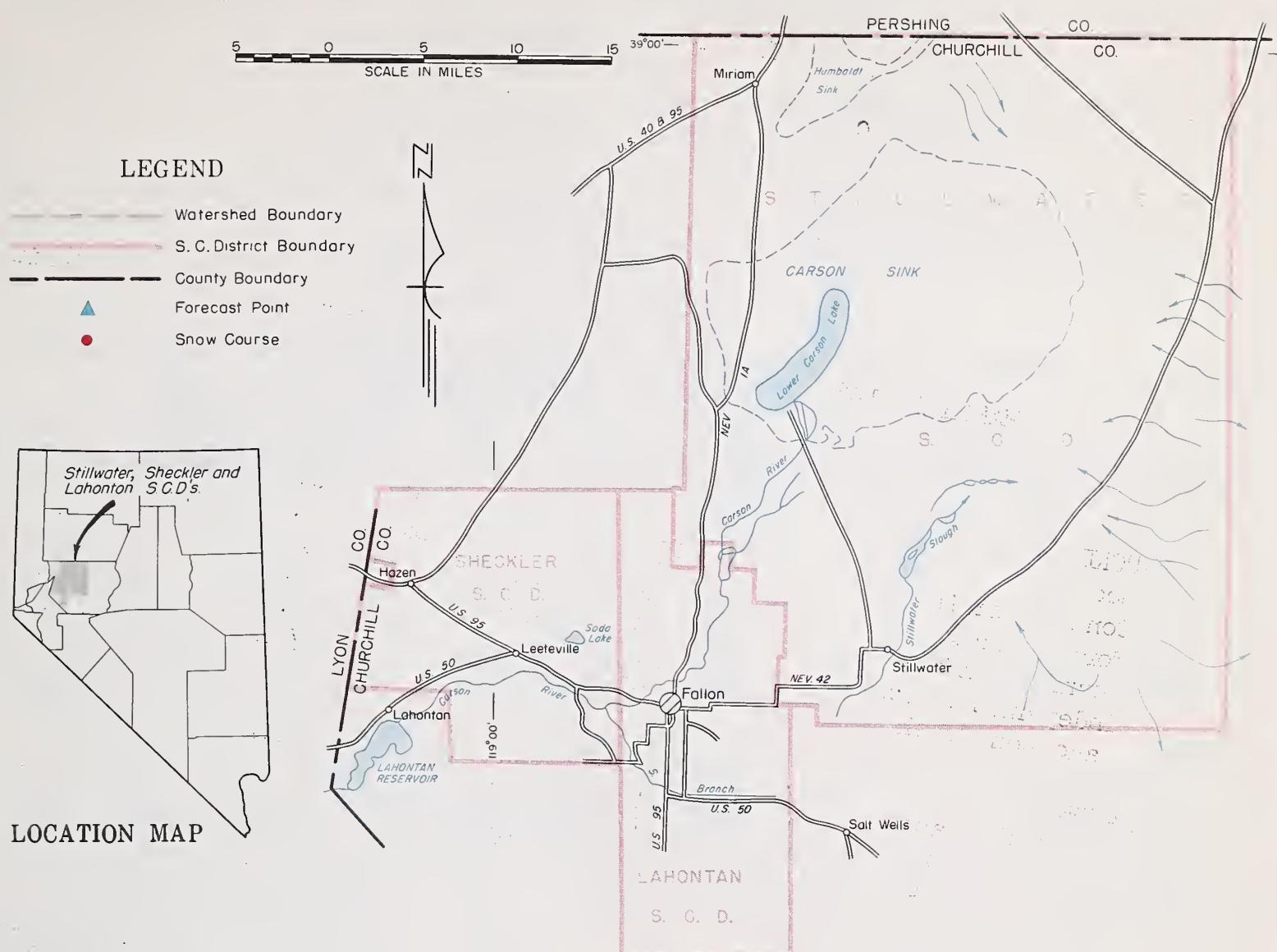
It is estimated that the East Carson near Gardnerville will drop to 200 cfs between June 15-30. Last year it dropped to 200 cfs on June 23.

In view of the critical irrigation season water supply shortage it is suggested that Carson Valley ranchers and farmers include in their spring and summer plans methods for obtaining maximum use of irrigation water. Contact Mr. Leonard Anker, Work Unit Conservationist, Soil Conservation Service, Gardnerville for specific recommendations.

# SNOW SURVEY & WATER SUPPLY FORECAST

STILLWATER, SHECKLER, LAHONTAN S.C.D.'s. & VICINITY

CHURCHILL COUNTY, NEVADA



MARCH 1, 1961

Water users in the Fallon area will have a much shorter than normal irrigation water supply this coming spring and summer. The present situation looks more favorable than low years such as 1931 and 1934 although shortage of water may result in some lands being left idle.

Lahontan Reservoir held 92,000 acre feet as of March 1, 1961; which is 43 percent of average (1943-57) and 32 percent of capacity. The reservoir is expected to fill to about 125,000-135,000 acre feet by April 1.

Both sources of inflow to Lahontan, namely the Truckee and the Carson Rivers are forecast to have April-July streamflow in 1961 which is much below normal. Lake Tahoe is expected to rise 0.60 foot from April 1 through the runoff season, which is 40 percent of normal. Present storage in Lake Tahoe is 105,000 acre feet which is less than 25 percent of normal. The Truckee River at Farad is forecast to flow 108,000 acre feet during April-July which is 42 percent of the 1943-57 average.

On the Carson River at Ft. Churchill the April-July forecast is for 25,000 acre feet or 15 percent of average.

The mountain snowpack as of March 1 1961 in both the Truckee and Carson Basins is 40-43 percent of a normal winters accumulation. Even with normal to slightly

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Lahontan	286	92	127	215
Lake Tahoe	732	105	291	465

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
Truckee River at Farad, Calif.*	108	147	255
Lake Tahoe rise* (In ft. from April 1 assuming gates closed)	0.60	0.54	1.50
Carson River at Ft. Churchill	25	30	171

\* Forecasts prepared by Truckee Basin Water Committee

SNOW MARCH 1, 1961

SNOW COURSE	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	
<b>TRUCKEE</b>						
Boca	5900	3/2	0	0.0	6.1	8.4
Donner Summit	6900	3/1	39	15.8	28.6	33.8
Fordyce Lake	6500	2/28	40	19.2	29.3	33.1
Furnace Flat	6600	2/28	52	21.4	31.3	39.7
Independence Camp	7000	3/2	28	9.5	16.2	19.0
Sage Hen Creek	6500	3/3	21	7.2*	13.7	17.4
<b>TAHOE</b>						
Daggetts Pass	7350	2/27	7	2.2	5.4	10.7
Echo Summit	7500	2/28	42	14.3	21.1	33.6
Hagans Meadow	8100	2/28	21	7.6	13.5	21.2
Tahoe City	6250	3/1	T	T	9.8	11.7
Ward Creek	7000	3/1	56	21.6	29.8	41.4
<b>CARSON RIVER</b>						
Carson Pass	8600	2/27	43	14.0	22.7	28.2
Clear Creek	7300	2/28	14	5.5	8.4	14.5

\* Course damaged by Donner Ridge fire last summer.

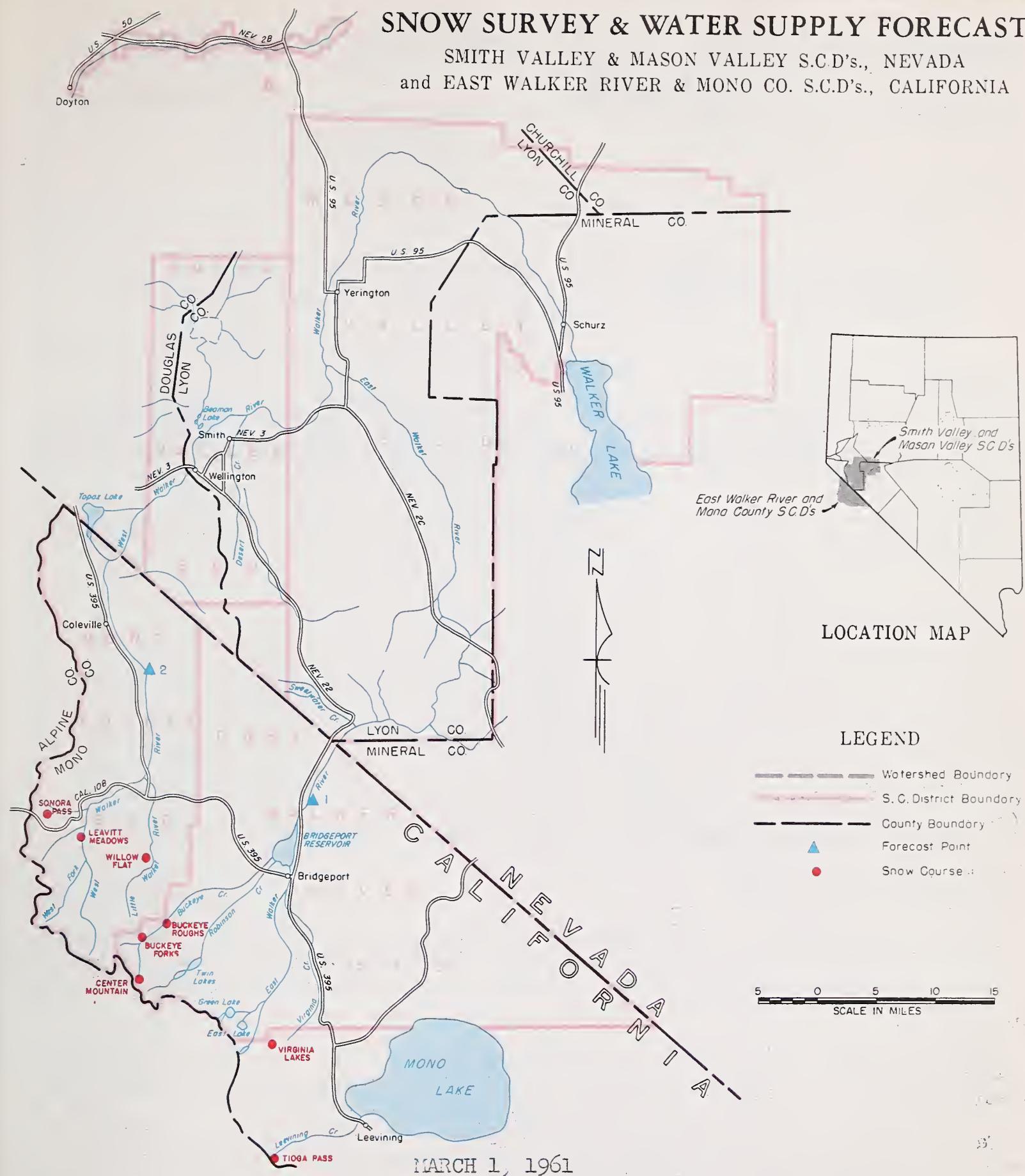
(Continued from front)

above normal snowfall during March there would be only about one-half of a normal winter's snowpack in these basins on April 1.

Farmers and ranchers in the Fallon area will have to make some adjustments in their usual cropping patterns to effect the maximum use of the limited water supply anticipated. For recommendations and suggestions on water conservation practices adaptable in this area contact Mr. Jesse Fowler, Work Unit Conservationist, Soil Conservation Service, Fallon, Nevada.

# SNOW SURVEY & WATER SUPPLY FORECAST

SMITH VALLEY & MASON VALLEY S.C.D.'s., NEVADA  
and EAST WALKER RIVER & MONO CO. S.C.D.'s., CALIFORNIA



STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Bridgeport	42	11	10	33
Topaz	59	13	19	42

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
1. East Walker* near Bridgeport, Cal.	14	18	61
2. West Walker below E. Fk. near Coleville, Calif.	65	82	148

\* Apr-Aug. runoff corrected for change in Bridgeport Reservoir.

MARCH 1, 1961  
SNOW

SNOW COURSE	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD			
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	NORMAL	
Center Mountain	9400	2/20	52	16.6*	-	-	-	-	0
Mt. Grant	9000	3/1	19	4.9	-	-	-	-	4
Sonora Pass	8800	2/24	33	10.8	14.9	20.5	5	5	
Virginia Lakes	9500	2/24	30	9.4	11.3	16.5	5	5	

\* Aerial snow depth gage reading; water content estimated.

(Continued from front)

Due to the extremely poor mountain snowpack with little if any snow at median mountain elevations and the cumulative soil moisture and ground water deficiencies which have been developing during the past two years the East and West Walker are forecast to flow at near record lows.

The West Walker near Coleville is forecast to flow 65,000 acre feet during April-July which is 44 percent of normal. Since 1938 the other low years were: 1939 - 85,000 acre feet, 1959 - 81,000 acre feet and 1960 - 82,000 acre feet. Based on a discontinued gaging station downstream from the present station, 1924 was the lowest year since records began with an April-July flow of 55,000 acre feet.

The East Walker near Bridgeport corrected for storage in Bridgeport Reservoir is forecast to flow 14,000 acre feet during April-August, which is 23 percent of normal. Since 1926 the other low years were 1931 - 12,000 acre feet, 1934 - 18,000 acre feet, 1959 - 18,000 acre feet and 1960 - 18,000 acre feet.

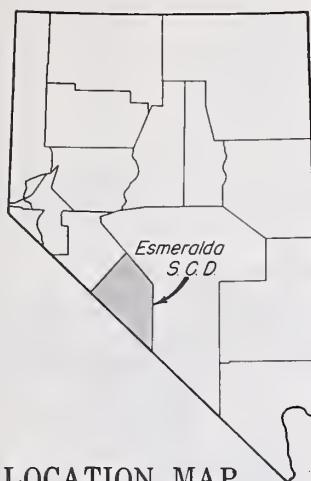
Bridgeport and Topaz Reservoirs hold very limited storage water. Bridgeport holds 11,000 acre feet which is 33 percent of normal while Topaz holds 13,000 acre feet or 31 percent of normal.

In view of the critical situation which exists in this area farmers and ranchers should make plans to utilize the limited water supply to its fullest. For specific recommendations and suggestions, water users in Mason Valley should contact Mr. Arnold Nowotny, WUC, SCS, Yerington, Nevada and in Smith and Antelope Valleys contact Mr. Harold Baker, WUC, SCS, Smith, Nevada.

# SNOW SURVEY & WATER SUPPLY FORECAST

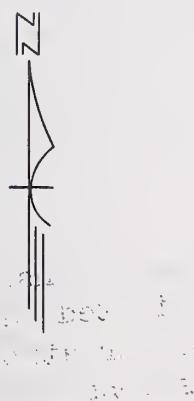
ESMERALDA S.C.D., ESMERALDA COUNTY, NEVADA

6 0 6 12 18 24  
SCALE IN MILES



## LEGEND

- Watershed Boundary
- S. C. District Boundary
- County Boundary
- Forecast Point
- Snow Course



MARCH 1, 1961

The White Mountains snowpack is somewhat better than the last two years. Measurements began in this area in 1959, so normals are not yet available. Although the March 1, 1961 snowpack is better than 1959 or 1960, 1961 to date is less than a normal year. This is based on the fact that mountain snow accumulation in nearby California and Nevada watersheds was much below normal in 1959 and 1960 as well as being markedly below normal so far this winter.

Mountain soils have gained in moisture during the past three months and are now partially wetted. However, some additional snow-melt water will be taken up by these soils. Runoff is expected to be below normal as in the past two years. Limited recharge of ground water in Fish Lake Valley and on the west side of the White Mountains is anticipated.

(over)

## STORAGE (1,000 Ac. Ft.)

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL

FORECAST POINT	FORECAST			MEASURED		
	THIS YEAR	LAST YEAR	NORMAL	THIS YEAR	LAST YEAR	NORMAL

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

## SNOW

MARCH 1, 1961

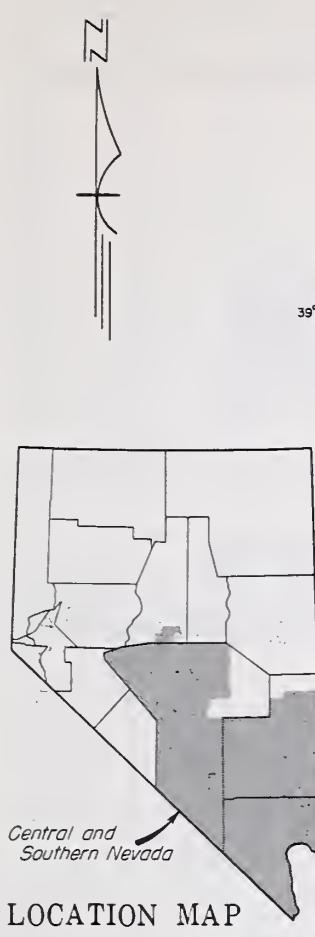
SNOW COURSE		CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	
Campito Mtn.	10200	2/27	14	5.2	1.2	-	0
Montgomery Pass	7100	2/23	0	0.0	0.0	-	0

(Continued from front)

Ranchers and farmers in this area should plan to put into effect water conservation practices which will give them the best utilization of their limited water supply. Contact Mr. John Brice, Work Unit Conservationist, Soil Conservation Service, Bishop, California for specific recommendations and suggestions.

# SNOW SURVEY & WATER SUPPLY FORECAST

CENTRAL and SOUTHERN NEVADA  
CLARK, LINCOLN & NYE COUNTIES, NEVADA



## LEGEND

- Watershed Boundary
- S.C. District Boundary
- County Boundary
- Forecast Point
- Snow Course

SCALE IN MILES

MARCH 1, 1961

March 1, 1961 snow cover in the Spring Mountains near Las Vegas is the lowest since measurement began in 1947 and is only 28 percent of the 1943-57 average. Recharge of ground water from the snowpack will be poor.

Mathew Canyon and Pine Canyon snow courses on Clover Creek, a tributary to Meadow Valley Wash have no snow as of March 1. On February 1, 1961 there was about 1.5 inches of snow stored water at these courses.

In the upper end of Reese River in northern Nye County, Upper and Lower Corral snow courses were 18 percent of their March 1 average. Small streams in this area will have poor runoff.

(Over)

# STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Mead	27217	18755	19124	16929
Mohave	1810	1702	1782	1476*

\* Storage began in 1950

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

# APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL

# SNOW

MARCH 1, 1961

SNOW COURSE	NAME	ELEVATION	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	
Clark Canyon		9000	2/25	10	2.8	11.1	6.7	12
Kyle Canyon		8200	2/27	3	1.1	11.2	9.3	15
Lee Canyon #1		8300	2/26	4	1.6	10.4	8.1	15
Lee Canyon #2		9000	2/26	14	3.6	10.9	9.0	15
Rainbow Canyon #2		8100	2/27	11	2.6	13.3	13.4	11
Trough Springs		8500	2/25	7	2.0	10.1	5.6	12
MEADOW VALLEY SCD								
Mathew Canyon		6200	3/1	0	0.0	5.4	1.6	9
Pine Canyon		6000	3/1	0	0.0	4.9	1.8	9
TONOPAH SCD								
Lower Corral		7500	2/28	0	0.0	2.2	1.4	14
Upper Corral		8500	2/28	3	1.2	4.0	5.0	14

(Continued from Front)

Virgin Valley water users will have a below normal irrigation water supply this coming spring-summer at least that part of the supply originating from mountain snow in the headwaters of the Virgin River in Utah. The Virgin River at Virgin is forecast to flow 57 percent of normal during April-June.

Las Vegas precipitation from October 1, 1960 through February 28, 1961 was as follows:

	Observed	August
October 1960	.49	.32
November 1960	1.88	.22
December 1960	.26	.58
January 1960	.22	.44
February 1960	.01	.58

During the last three months, after the excellent precipitation in October and November, the precipitation has been only 31 percent of average.

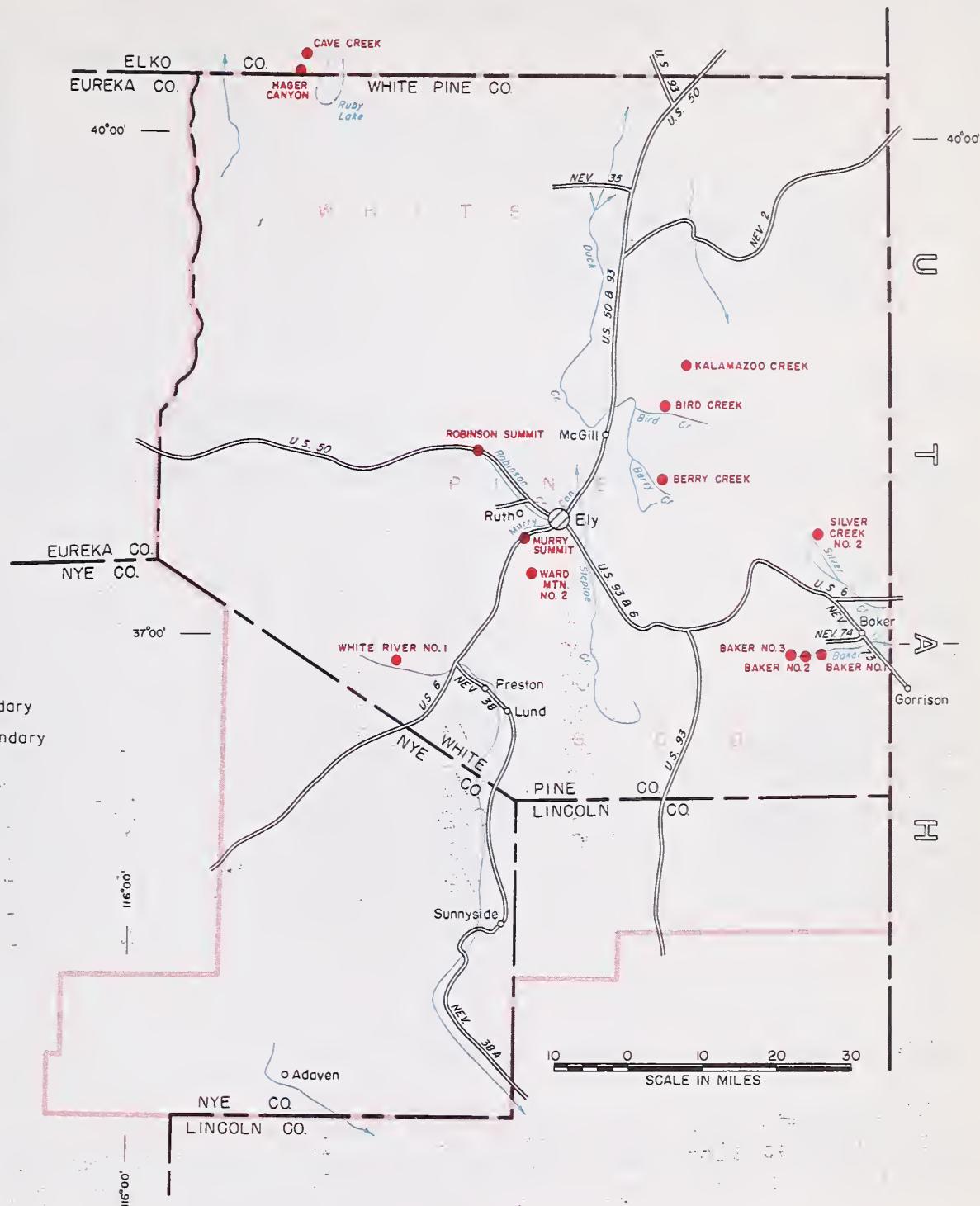
Ranchers and farmers in this area dependent on surface streamflow should make plans to utilize the limited irrigation streamflow to its fullest. For specific recommendations and suggestions contact Mr. Thomas Raynor, Work Unit Conservationist, Soil Conservation Service, Las Vegas, Nevada, or Mr. D. J. Johnson, Work Unit Conservationist, SCS, Caliente, Nevada.

**SNOW SURVEY & WATER SUPPLY FORECAST**  
WHITE PINE S.C.D., WHITE PINE, LINCOLN & NYE COUNTIES, NEVADA



LEGEND

- Watershed Boundary
- S.C. District Boundary
- County Boundary
- Forecast Point
- Snow Course



MARCH 1, 1961

March 1, 1961 snow surveys in White Pine County indicate that the mountain snowpack is one of the poorest of record at 51 percent of normal. Recent storms just prior to and during the March 1 snow survey appreciably improved the mountain snowpack. Were it not for these storms all time record March 1 lows would have been recorded.

Irrigation water supplies in White Pine Soil Conservation District this spring-summer will be poor to fair. Good fall rains occurred in this area and the mountain soils are now rated damp to wet. Less snowmelt water will be required to prime the soil this year than in 1960. Spring-summer runoff will be slightly poorer than last year unless above normal snowfall occurs in the mountains in March and spring rainfall is good.

(Over)

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

## SNOW

MARCH 1, 1961

SNOW COURSE	NAME	ELEVATION	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	
Baker #1		7950	3/2	9	2.1	5.2	6.4	15
Baker #2		8950	3/2	30	7.5	10.6	15.6	15
Baker #3		9250	3/2	36	8.6	12.1	15.6	13
Berry Creek		9100	3/1	34	9.3	8.0	13.6	10
Bird Creek		7500	3/1	11	3.3	3.2	4.3	10
Cave Creek		7500	2/28	26	7.5	12.5	13.8	14
Hager Canyon		8000	2/28	33	9.5	11.0	18.6	14
Kalamazoo Creek		7400	3/3	17	4.9	6.5	-	0
Murray Summit		7250	2/27	T	T	3.3	3.9	15
Robinson Summit		7600	2/28	T	T	3.1	3.7	9
Silver Creek #2		8000	3/1	14	3.2	4.6	-	1
Ward Mtn. #2		8900	2/27	19	5.3	7.5	-	1
White River #1		7400	2/27	T	T	2.0	-	0

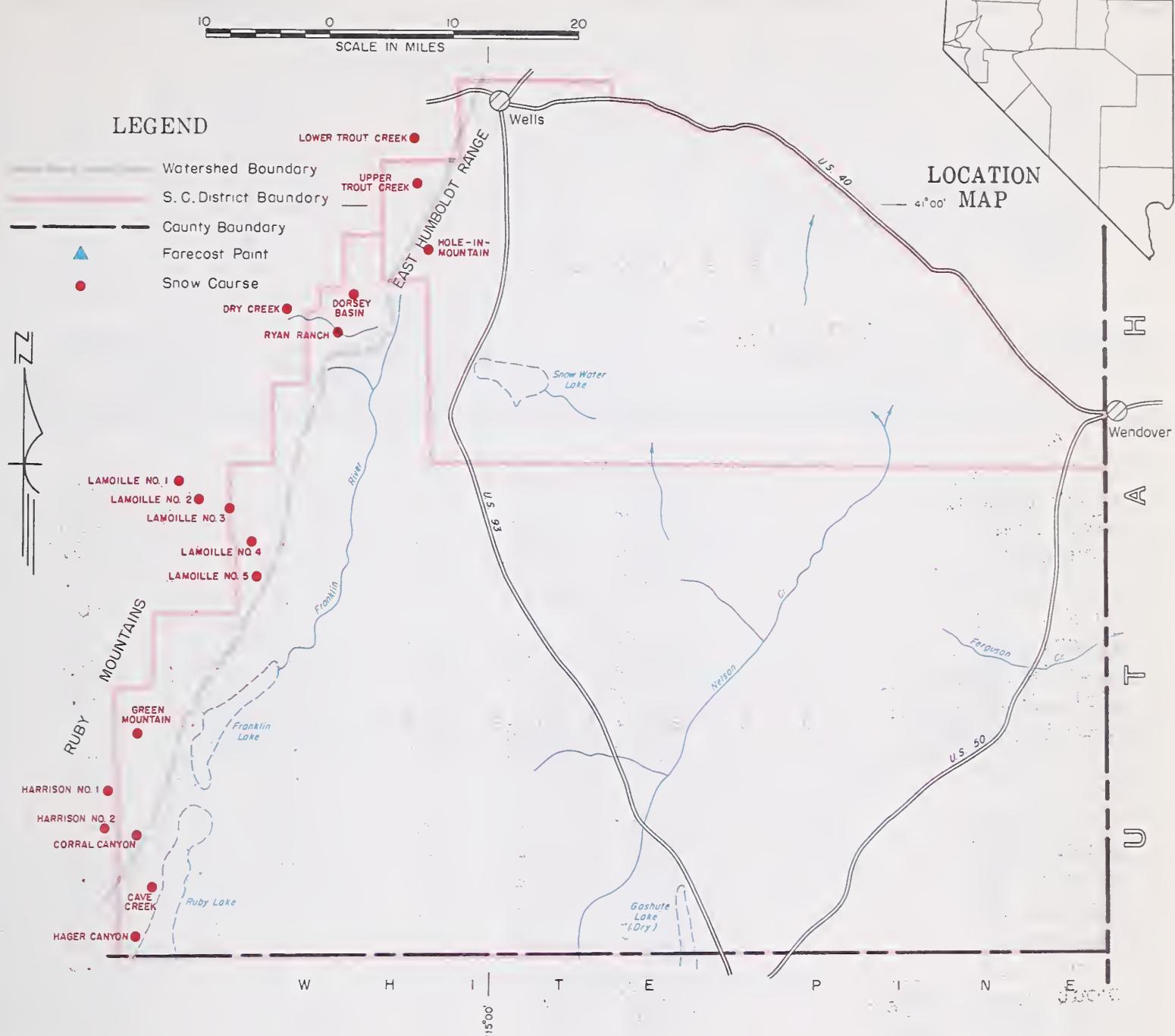
(Continued from front)

The snowpack in the Snake Range near Baker and Garrison is 48 percent of normal. Snow courses on the west slope of the Schell Range on Bird and Berry Creeks are 70 percent of normal and are slightly less than last year.

Ranchers should include in their plans for this coming summer operation measures which will make the maximum use of the limited water supplies anticipated. Specific recommendations and suggestions may be obtained from Mr. Leon Hubbard, Work Unit Conservationist, Soil Conservation Service, for the White Pine Soil Conservation District, Ely, Nevada.

# SNOW SURVEY & WATER SUPPLY FORECAST

CLOVER & RUBY S.C.D.'s., ELKO COUNTY, NEVADA



MARCH 1, 1961

Snow surveys on the western slopes of the Ruby Mountains indicate the mountain snowpack is 70 percent of the 1943-57 March 1 average. Spring-summer streamflow of streams heading on the eastern slopes of the Ruby Mountains will range from fair to poor if the present trend continues.

Hole-in-Mtn. snow course at 7900 feet on the eastern slope has 12.8 inches of water or about 75 percent of last year's measurement.

At the southern end of the Rubys, two snow courses at the Ruby Lake National Wildlife Refuge were measured and found to be 52 percent of the 1943-57 average.

Farmers and ranchers in this area should plan to exercise careful water management in order to obtain the maximum use of the limited water supply. For specific recommendations and suggestions contact Mr. Tom Turner, Work Unit Conservationist, Soil Conservation Service, Wells, Nevada.

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST		MEASURED
	THIS YEAR	LAST YEAR	NORMAL

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

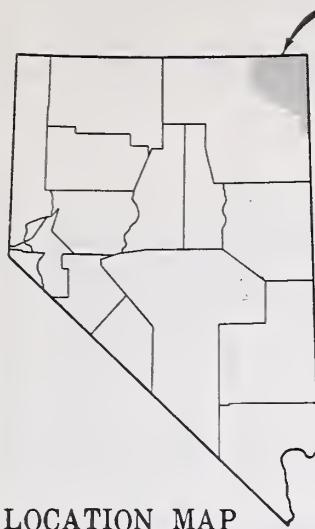
## SNOW

MARCH 1, 1961

SNOW COURSE	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD	
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)		
Cave Creek	7500	2/28	26	7.5	12.5	13.8	14
Corral Canyon	8500	3/3	48	13.8	11.9	15.9	12
Dorsey Basin	8100	2/28	33	9.4	11.2	10.2	15
Dry Creek	6500	2/28	3	0.5	6.0	5.1	14
Green Mountain	8000	3/3	32	8.1	11.4	10.7	12
Hager Canyon	8000	2/28	33	9.5	11.0	18.6	14
Harrison Pass #1	6600	3/2	11	3.1	4.8	4.0	15
Harrison Pass #2	7400	3/2	14	3.3	5.6	4.0	13
Hole-in-Mountain	7900	2/28	39	12.8	16.8	-	0
Lamoille #1	7100	2/27	27	7.7	7.6	9.8	15
Lamoille #2	7300	2/27	21	5.9	7.5	9.4	15
Lamoille #3	7700	2/27	27	7.0	9.7	12.2	15
Lamoille #4	8000	2/27	39	11.1	12.4	17.7	14
Lamoille #5	8700	2/27	54	16.2	17.0	24.5	13
Ryan Ranch	5800	2/28	T	T	3.1	2.0	15
Trout Creek, Lower	6900	3/1	10	2.0	3.7	3.2	12
Trout Creek, Upper	8500	3/1	42	12.0	13.7	18.3	13

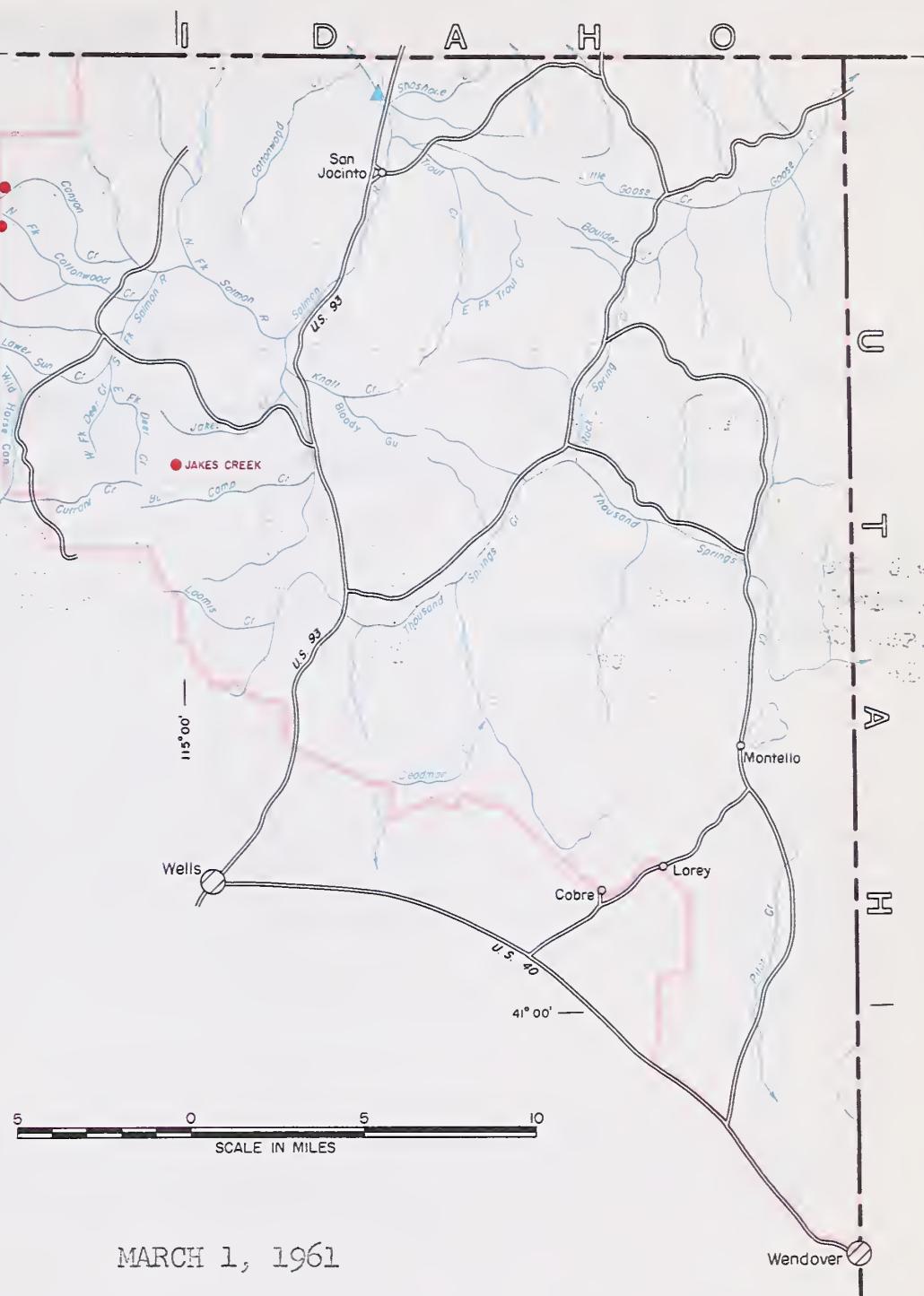
# SNOW SURVEY & WATER SUPPLY FORECAST

## NORTHEAST ELKO S.C.D., ELKO COUNTY, NEVADA



### LEGEND

- Watershed Boundary
- S.C. District Boundary
- County Boundary
- Forecast Point
- Snow Course



Snow surveys in Northeast Elko Soil Conservation District indicate that the mountain snowpack has improved during the last month but is slightly less than last year. Mountain soil moisture has improved during the fall and winter months to date. Soils will still require from 1 to 3 inches of snowmelt water before runoff occurs.

Salmon Falls Creek near San Jacinto is expected to flow about 57 percent of the 1943-57 normal.

Range conditions will be fair, and could improve with good spring precipitation.

Farmers and ranchers should plan now how to best utilize the limited water supply anticipated this year. For specific recommendations and suggestions contact Mr. Tom Turner, Work Unit Conservationist, Soil Conservation Service, Wells, Nevada.

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
1. Salmon Falls Cr. near San Jacinto			
March-Sept.	50	64	88
March-July	48	62	85

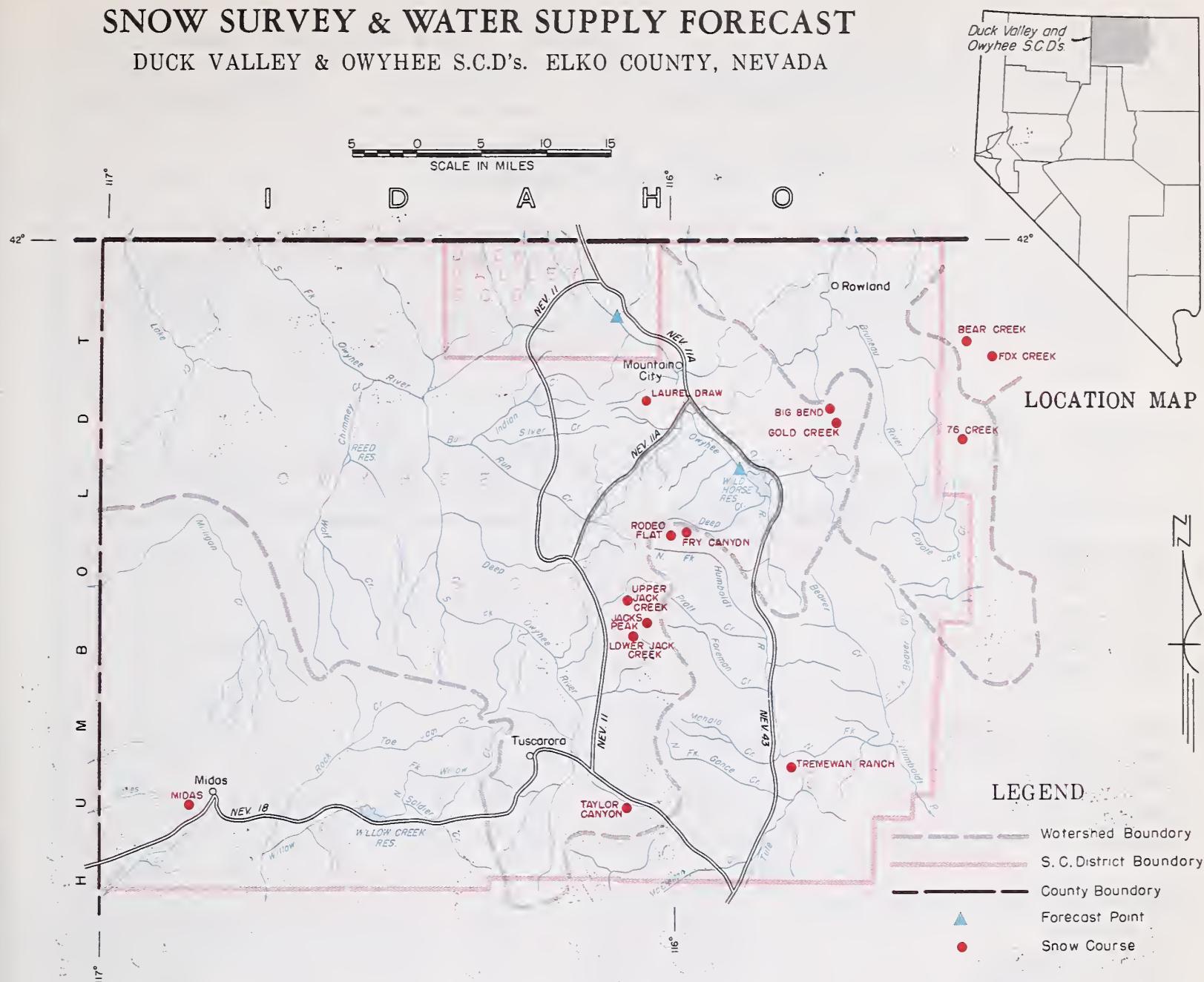
## SNOW

MARCH 1, 1961

SNOW COURSE	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	
Goat Creek	8800	3/1	38	11.0	13.0	-
Hummingbird Springs	8945	3/1	48	13.3	14.4	-
Jakes Creek	7000	Report Delayed		5.0	-	0
Pole Creek Ranger Station	8330	3/1	43	11.8	14.0	-

# SNOW SURVEY & WATER SUPPLY FORECAST

DUCK VALLEY & Owyhee S.C.D's. ELKO COUNTY, NEVADA



MARCH 1, 1961

Water content of the mountain snowpack in the Owyhee watershed increased in a slightly above normal fashion during February 1961. However, this increase added to the 40 percent of normal February 1 snowpack resulted in a March 1 snowpack which is only 50 percent of the March 1, 1943-57 average.

Mountain soil moisture has improved during the fall and winter months to date. Special soil moisture readings taken at several soil moisture stations in or near the Owyhee watershed indicate that mountain soils now hold about 80 percent of capacity. From 1 to 3 inches of snowmelt water is still required to bring these soils to full wetness.

The Owyhee near Gold Creek is forecast to flow 9,000 acre feet during April-July or 33 percent of normal. Wild Horse Reservoir now holds 14,000 acre feet and is not expected to fill to its 33,000 acre feet capacity. The anticipated inflow added to present storage should provide an irrigation water supply very comparable to last year.

Downstream at Owyhee, the river is forecasted to flow 33,000 acre feet which is 38 percent of the 1943-57 average.

(Over)

## STORAGE (1,000 Ac. Ft.)

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Wild Horse	33	14	10	13

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
1. Owyhee River near Owyhee 1/	33	43	86
2. Owyhee River near Gold Creek 1/	9	14	27
1/ Corrected for change in storage in Wild Horse Reservoir			

SNOW MARCH 1, 1961

SNOW COURSE	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD	
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)		
Bear Creek	7800	2/28	41	9.4	13.5	17.6	13
Big Bend	6700	2/28	23	5.2	7.0	8.9	15
Fox Creek	6800	2/28	17	4.5	8.1	8.9	13
Fry Canyon	6700	2/28	17	4.9	7.7	8.2	15
Gold Creek	6600	2/28	10	2.1	4.9	5.9	14
Jack Creek, Lower	6800	3/1	8	2.0	5.2	3.2	15
Jack Creek, Upper	7250	3/1	24	6.5	9.5	8.9	14
Jacks Peak	8420	3/1	58	17.6	17.3	-	1
Laurel Draw	6700	3/2	23	6.4	7.4	-	0
Midas	7200	2/24	T	T	8.0	3.5	12
Rodeo Flat	6800	2/28	15	4.0	5.7	8.2	15
76 Creek	7100	2/27	25	6.5	8.4	11.1	10
Taylor Canyon	6200	3/2	3	0.7	5.4	5.0	15
Tremewan Ranch	5700	2/28	T	T	1.9	1.9	15

(Continued from front)

Range conditions should be fair and could improve if spring rainfall is good.

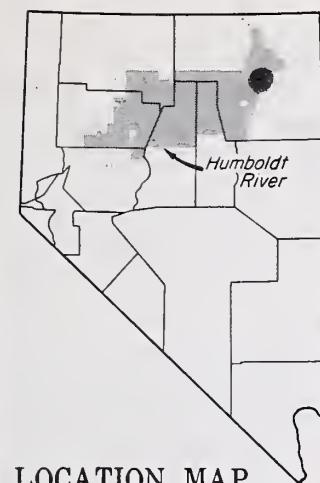
Careful water management by ranchers is very important again this year. For specific recommendations and suggestions on how to obtain maximum water use efficiency, ranchers in Duck Valley and Owyhee Soil Conservation Districts should contact Mr. Lester McKenzie, Work Unit Conservationist, Soil Conservation Service, Elko, Nevada.

# SNOW SURVEY & WATER SUPPLY FORECAST

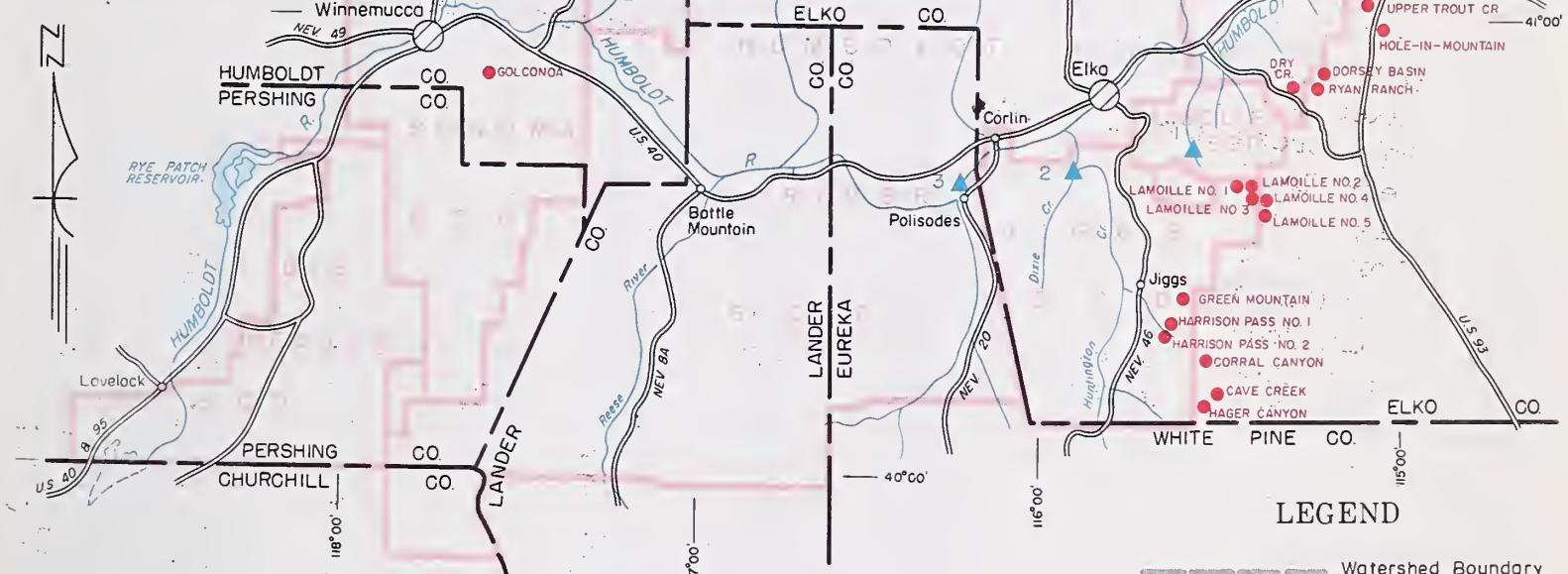
HUMBOLDT RIVER

CHURCHILL, ELKO, EUREKA, HUMBOLDT, LANDER & PERSHING COUNTIES, NEVADA

25 0 25 50 75  
SCALE IN MILES



LOCATION MAP



MARCH 1, 1961

Water users served from the Humboldt River from Palisade, Nevada to Lovelock, Nevada face another irrigation season of extremely short water supply. March 1, 1961 mountain snowpack in the headwaters of the Humboldt above Palisade is 75 percent of last year and 61 percent of normal. Water content of the snow at elevations below 6500 feet is markedly deficient at about 20 percent of normal.

The Humboldt at Palisade is forecast to flow 50,000 acre feet during April-July or 22 percent of normal. South Fork of the Humboldt near Elko is forecast to flow 35,000 acre feet during April-July or 47 percent of normal. Lamoille Creek near Lamoille is forecast at 18,000 acre feet for April-July or 64 percent of normal.

Water users served from Rye Patch face a critically short irrigation season water supply. Rye Patch holds 9,000 acre feet which is only 8 percent of the March 1 normal and 5 percent of capacity. Even with heavy March snowfall in the mountains and good spring rainfall it is very questionable that any more than 20,000 acre feet if that much will flow into Rye Patch during April-July.

(Continued on attached sheet)

**STORAGE (1,000 Ac. Ft.)**

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Rye Patch	179	9	26	103

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

**APRIL - JULY RUNOFF (1,000 Ac. Ft.)**

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
1. Lamoille Creek near Lamoille	18	19	28
2. So. Fork Humboldt River near Elko	35	28	74
3. Humboldt River at Palisade	50	63	225
4. Martin Creek near Paradise Valley	8	10	17

**SNOW** MARCH 1, 1961

SNOW COURSE	NAME	ELEVATION	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	NORMAL	
Goat Creek		5300	3/1	38	11.0	13.0	-	3
Hummingbird Springs		8945	3/1	48	13.3	14.4	-	3
Jakes Creek		7000	Report delayed			5.0	-	0
Pole Creek Ranger Station		8330	3/1	43	11.8	14.0	-	3
Bear Creek		7800	2/28	41	9.4	13.5	17.6	13
Big Bend		6700	2/28	23	5.2	7.0	8.9	15
Fox Creek		6800	2/28	17	4.5	8.1	8.9	13
Fry Canyon		6700	2/28	17	4.9	7.7	8.2	15
Gold Creek		6600	2/28	10	2.1	4.9	5.9	14
Jack Creek, Lower		6800	3/1	8	2.0	5.2	3.2	15
Jack Creek, Upper		7250	3/1	24	6.5	9.5	8.9	14
Jacks Peak		8420	3/1	58	17.6	17.3	-	1
Laurel Draw		6700	3/2	23	6.4	7.4	New Course	
Rodeo Flat		6800	2/28	15	4.0	5.7	8.2	15
76 Creek		7100	2/27	25	6.5	8.4	11.1	10
Taylor Canyon		6200	3/2	3	0.7	5.4	5.0	15
Tremewan Ranch		5700	2/28	T	T	1.9	1.9	15
Cave Creek		7500	2/28	26	7.5	12.5	13.8	14
Corral Canyon		8500	3/3	48	13.8	11.9	15.9	12
Dorsey Basin		8100	2/28	33	9.4	11.2	10.2	15
Dry Creek		6500	2/28	3	0.5	6.0	5.1	14
Green Mountain		8000	3/3	32	8.1	11.4	10.7	12
Hager Canyon		8000	2/28	33	9.5	11.0	18.6	14
Harrison Pass #1		6600	3/2	11	3.1	4.8	4.0	15
Harrison Pass #2		7400	3/2	14	3.8	5.6	4.0	13
Hole-in-Mountain		7900	2/28	39	12.8	16.8	-	0
Lamoille #1		7100	2/27	27	7.7	7.6	9.8	15
Lamoille #2		7300	2/27	21	5.9	7.5	9.4	15
Lamoille #3		7700	2/27	27	7.0	9.7	12.2	15
Lamoille #4		8000	2/27	39	11.1	12.4	17.7	14
Lamoille #5		8700	2/27	54	16.2	17.0	24.5	13
Ryan Ranch		5800	2/28	T	T	3.1	2.0	15
Trout Creek, Lower		6900	3/1	10	2.0	3.7	3.2	12
Trout Creek, Upper		8500	3/1	42	12.0	13.7	18.3	13
Midas		7200	2/24	T	T	8.0	3.5	12
Golconda #2		6000	2/24	T	T	3.9	-	0
Buckskin, Lower		6700	2/27	20	6.1	8.9	8.4	12
Buckskin, Upper		7200	2/27	20	6.8	10.0	7.9	11
Granite Peak		7800	2/27	20	5.6	9.4	10.7	15
Lamance Creek		6000	2/28	16	5.1	11.2	8.9	14
Martin Creek		6700	2/27	18	6.2	9.0	8.2	15

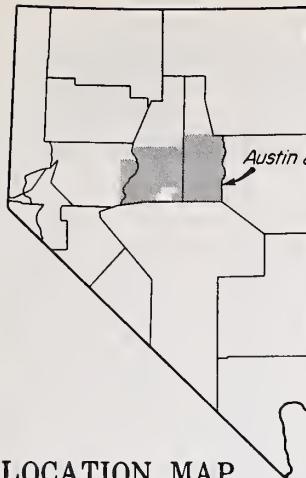
(Continued from Plate 12)

Water users along the Humboldt River below Palisade should utilize all water conservation measures applicable in this area for obtaining maximum use of the limited irrigation water supplies anticipated. For specific recommendations and suggestions for Humboldt River and Jiggs Soil Conservation Districts contact Mr. Buhel Heckathorn, Work Unit Conservationist, Soil Conservation Service, Elko, Nevada; for Sonoma Soil Conservation District, Mr. Elmer Davis, Work Unit Conservationist, Soil Conservation Service, Winnemucca, Nevada; Big Meadow Soil Conservation District, Mr. Richard MacDougall, Work Unit Conservationist, Soil Conservation Service, Lovelock, Nevada; Lamoille Soil Conservation District, Mr. Lester McKenzie, Work Unit Conservationist, Soil Conservation Service, Elko, Nevada; and Starr Valley Soil Conservation District, Mr. Tom Turner, Work Unit Conservationist, Soil Conservation Service, Wells, Nevada.



# SNOW SURVEY & WATER SUPPLY FORECAST

AUSTIN & EUREKA S.C.D.'S., CHURCHILL, EUREKA  
& LANDERS COUNTIES, NEVADA

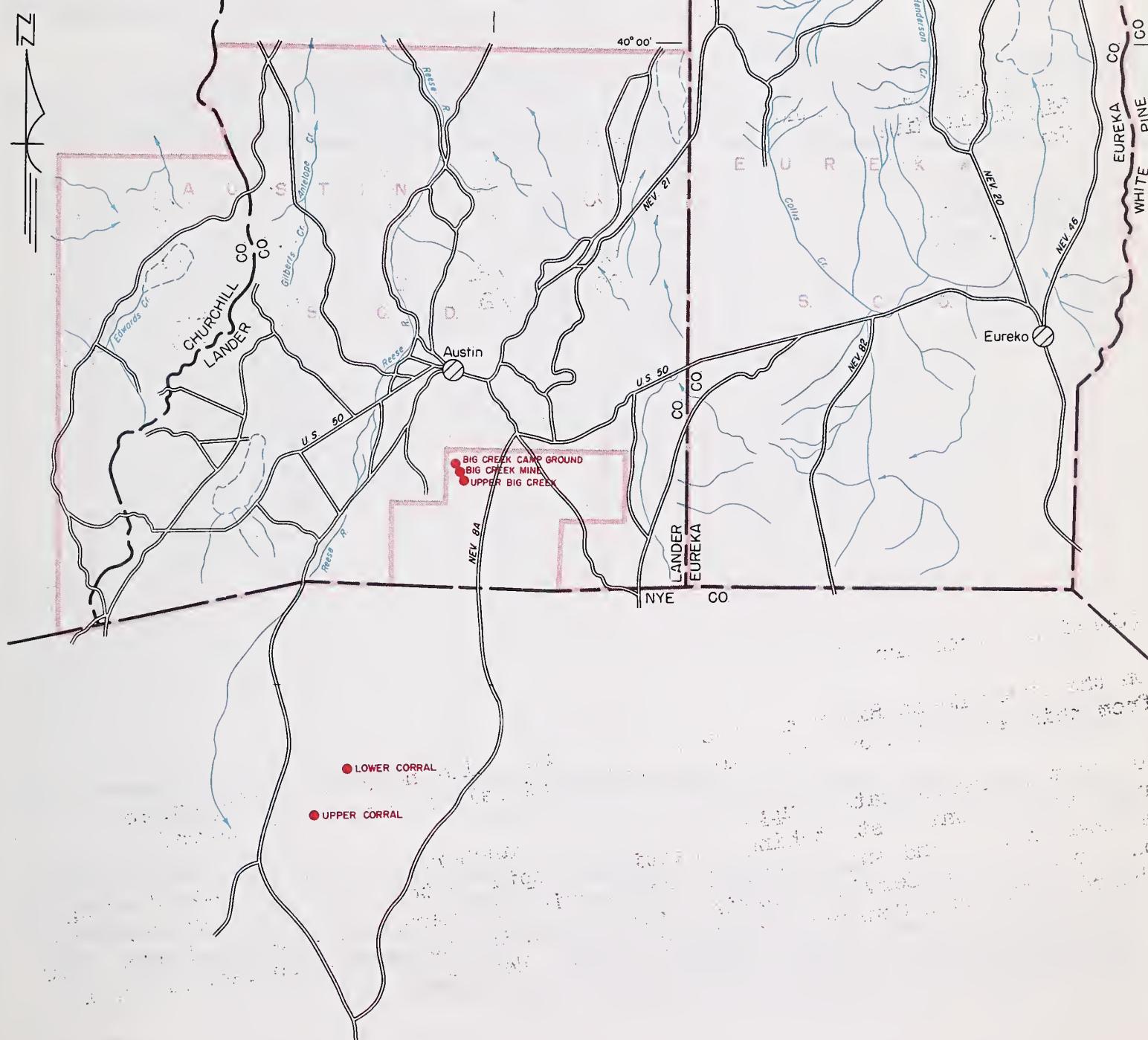


LOCATION MAP

8 0 8 16  
SCALE IN MILES

## LEGEND

- Watershed Boundary
- S. C. District Boundary
- County Boundary
- Forecast Point
- Snow Course



MARCH 1, 1961

The mountain snowpack in the Austin-Eureka area is below normal for this time of year. Only fair to poor runoff can be expected this spring and summer.

Snow surveys in the Toiyabe Range on Big Creek south of Austin show the snowpack to be 59 percent of the March 1, 1943-57 average. Only fair runoff from this area can be expected this year.

(over)

Plate 13

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST			MEASURED		
	THIS YEAR	LAST YEAR	NORMAL	THIS YEAR	LAST YEAR	NORMAL

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

## SNOW MARCH 1, 1961

SNOW COURSE	CURRENT INFORMATION			PAST RECORD			YEARS OF RECORD
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
						LAST YEAR	NORMAL
Big Creek Camp Ground	6600	3/1	2	0.9	2.3	2.1	15
Big Creek Mine	7600	3/1	7	2.2	3.6	3.2	14
Upper Big Creek	8000	3/1	13	4.0	4.3	6.2	13
Lower Corral	7500	2/28	0	0.0	2.2	1.4	14
Upper Corral	8500	2/28	3	1.2	4.0	5.0	14

(Continued from front)

On the Upper Reese River the snowpack is much below normal. Spring-summer runoff from this area will be poor unless spring rainfall is much above normal.

Due to the limited water supply anticipated, ranchers and farmers should bring into play all "water stretching" practices adaptable to this area. For specific recommendations and suggestions in the Austin SCD contact Mr. Lyman Gleason, WUC, Soil Conservation Service, Austin, Nevada. In the Eureka SCD contact Mr. Leon Hubbard, WUC, Soil Conservation Service, Ely, Nevada.

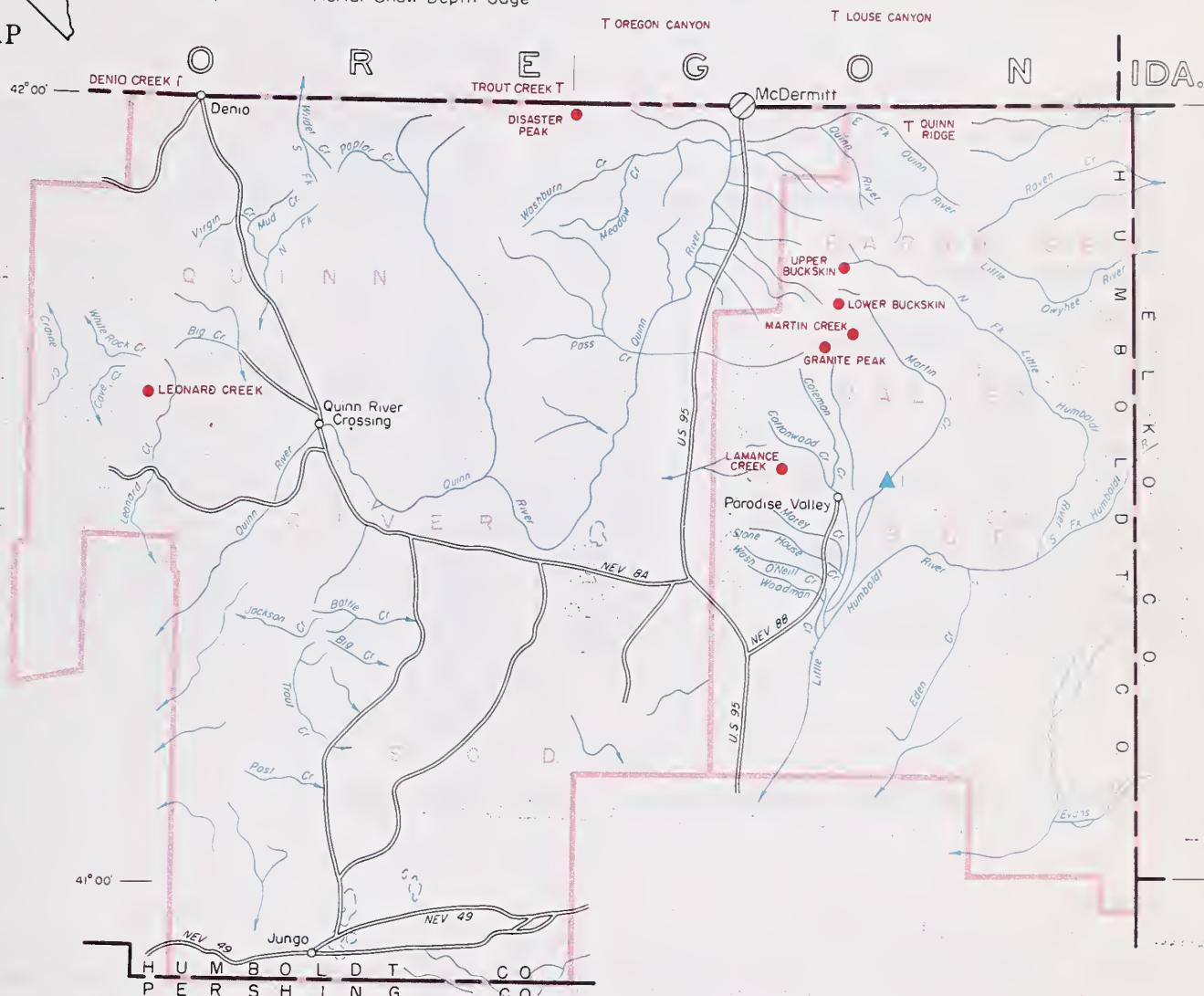
**SNOW SURVEY & WATER SUPPLY FORECAST**  
PARADISE VALLEY & QUINN RIVER S.C.D.'S., HUMBOLDT COUNTY, NEVADA



**LEGEND**

10 0 10 20  
SCALE IN MILES

**LOCATION MAP**



MARCH 1, 1961

Water users in Paradise Valley can expect an April-July streamflow of 8,000 acre feet from Martin Creek. This is 47 percent of normal and will be somewhat less than last year's flow of 10,000 acre feet during April-July.

Fall rains and snowmelt at lower mountain elevations this winter have improved soil moisture conditions. Mountain soils are now fairly well wetted. This favorable condition is offset by the below normal snowpack which is only 65 percent of normal.

Other streams in the Santa Rosa Mountains can be expected to have flows similar to Martin Creek.

(Over)

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL
Rye Patch	179	9	26	103

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL
1. Martin Creek near Paradise Valley	8	10	17
Humboldt River at Palisade	50	63	225

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

MARCH 1, 1961

## SNOW

SNOW COURSE	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD	
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)		
Buckskin, Lower	6700	2/27	20	6.1	8.9	8.4	12
Buckskin, Upper	7200	2/27	20	6.8	10.0	7.9	11
Disaster Peak	6500	2/25	28	9.3	9.2	15.7	9
Denio Creek (Oregon)*	6000	2/25	0	0.0	0.8	-	0
Granite Peak	7800	2/27	20	5.7	9.4	10.7	15
Lamance Creek	6000	2/28	16	5.1	11.2	8.9	14
Leonard Creek	5900	2/23	0	0.0	New Course	0	0
Louse Canyon (Oregon)*	6440	2/28	2	0.7	3.6	-	0
Martin Creek	6700	2/27	18	6.2	9.0	8.2	15
Oregon Canyon (Oregon)*	7240	2/28	14	4.6	7.6	-	0
Quinn Ridge*	6300	2/28	1	0.3	5.6	-	0
Trout Creek (Oregon)*	7800	2/28	16	5.3	5.6	-	0

\* Aerial snow depth gage; water content estimated.

(Continued from front)

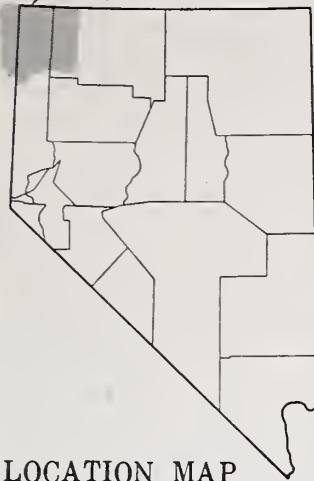
Range conditions should be fair and can improve with good spring rainfall.

Ranchers and farmers in the Quinn River, Kings River and Paradise Valley Soil Conservation Districts should carefully utilize this coming irrigation season's water supply for maximum efficiency. For specific recommendations and suggestions contact Mr. Elmer Davis, Work Unit Conservationist, Soil Conservation Service, Winnemucca, Nevada.

# SNOW SURVEY & WATER SUPPLY FORECAST

VYA S.C.D., NEVADA and  
SURPRISE VALLEY S.C.D., CALIFORNIA

Vya and Surprise  
Valley SCD's



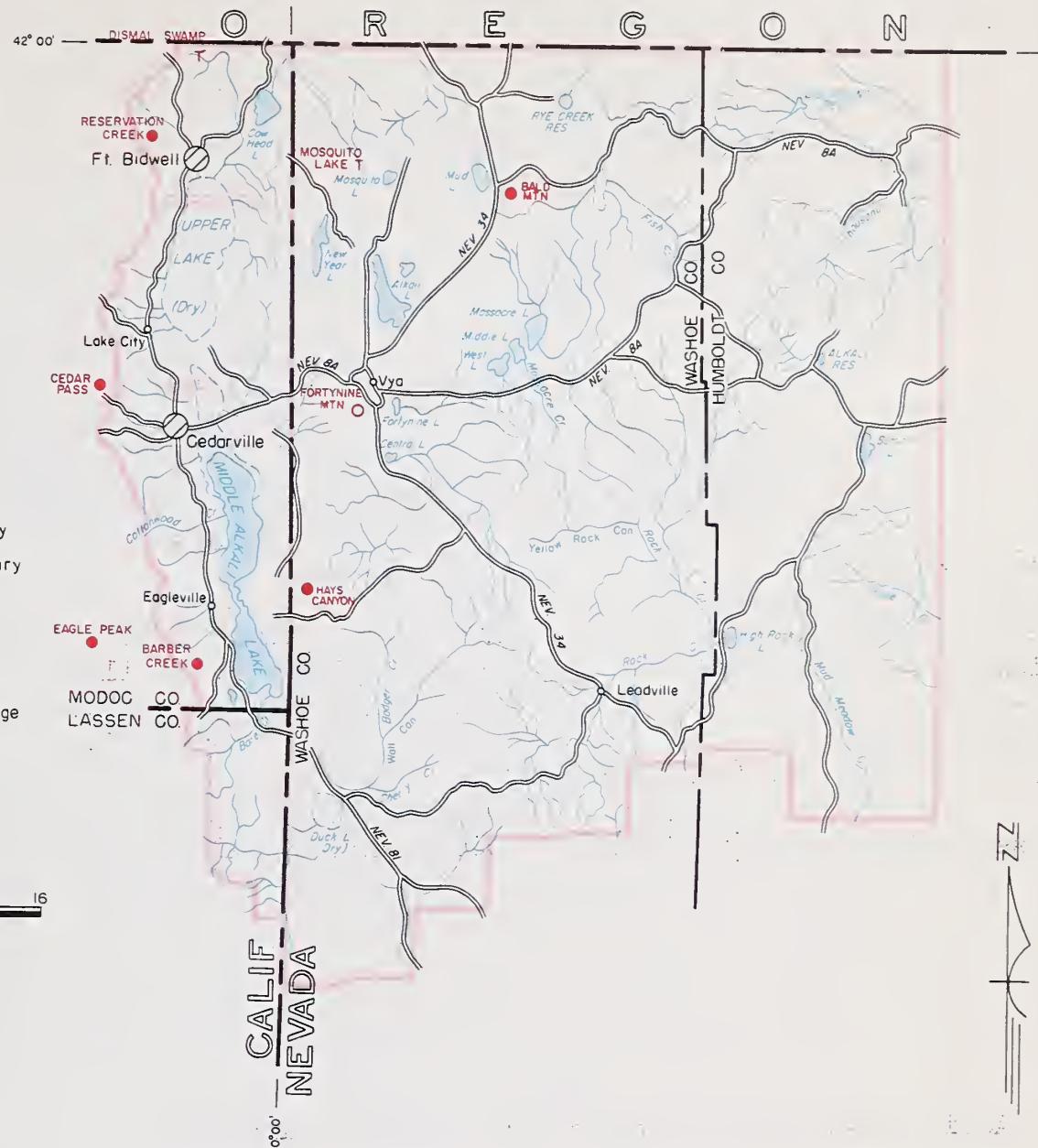
## LOCATION MAP

#### LEGEND

Watershed Boundary  
S.C. District Boundary  
County Boundary  
Forecast Point  
Snow Course  
Aerial Snow Depth Gage

8 0 8 10  
SCALE IN MILES

A horizontal scale bar with tick marks at 0, 8, and 10 miles. The word "SCALE" is written above the bar, and "IN MILES" is written below it.



MARCH 1, 1961

Water supply prospects in the Surprise Valley and Vya Soil Conservation Districts during the coming spring and summer months are not as good as a year ago and very similar to 1959. In 1959 streamflow off the east slopes of the Warner Mtns. into Surprise Valley was 40-60 percent of normal. Heavy March snowfall and good spring precipitation could improve the water supply above the present outlook.

On the east side of Surprise Valley Bald Mtn. snow course has 2.0 inches of water which is 60 percent of normal. Hays Canyon and Fortynine Mtn. are 34 percent of last year and 41 percent of March 1, 1959. Normals are not yet available for these two courses due to limited record.

Water users in this area should make plans to obtain the maximum efficiency and use from the anticipated below normal water supply. For specific recommendations and suggestions contact Mr. Charles Saulisberry, Work Unit Conservationist, Soil Conservation Service, Cedarville, California.

## STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	NORMAL

## APRIL - JULY RUNOFF (1,000 Ac. Ft.)

FORECAST POINT	FORECAST	MEASURED	
	THIS YEAR	LAST YEAR	NORMAL

NOTE: All normals based on 1943-1957 15 year period. "Years of record" indicates number of years used in 1943-1957 period. The forecast period is from April 1 through July 31.

## SNOW

MARCH 1, 1961

SNOW COURSE	NAME	ELEVATION	CURRENT INFORMATION			PAST RECORD		YEARS OF RECORD
			DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	
Bald Mountain		6720	2/28	6	2.0	6.5	3.3	15
Barber Creek (Calif.)		6500	2/27	22	6.7	9.1	-	0
Cedar Pass (Calif.)		7100	Report	Delayed		13.3	14.3	13
Dismal Swamp (Oregon)*		7000	2/25	37	11.8	11.7	-	1
49-Mtn.		6000	2/28	5	2.2	4.6	-	0
Hays Canyon		6400	2/28	1	0.6	3.6	-	0
Little Bally Mtn. (Mosquito Lake)*		6000	2/25	5	1.6	New	Course	.
Reservation Creek (Calif.)		5900	2/27	21	6.9	9.9	-	0

\* Aerial snow depth gage; water content estimated.

## Agencies Cooperating in Collecting Data Contained in this Bulletin

### FEDERAL

Soil Conservation Service  
Forest Service  
Geological Survey  
Bureau of Reclamation  
Fish and Wildlife Service  
Army  
Navy  
Weather Bureau  
Agricultural Research Service

### STATE

Nevada Department of Conservation & Natural Resources  
Division of Water Resources  
Nevada State Forester-Firewarden  
Nevada Cooperative Snow Surveys  
Colorado River Commission of Nevada  
California Cooperative Snow Surveys  
California Department of Water Resources  
Oregon Cooperative Snow Surveys  
Nevada Association of Soil Conservation Districts

### PRIVATE

Walker River Irrigation District  
Amalgamated Sugar Company  
Owyhee Project North Board of Control  
Owyhee Project South Board of Control  
Virginia City Water Company  
Kennecott Copper Corporation  
Squaw Valley Development Company  
Pacific Gas & Electric Company  
Nevada Irrigation District  
Sierra Pacific Power Company  
Washoe County Water Conservation District  
Truckee-Carson Irrigation District  
Pershing County Water Conservation District

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with the Snow Survey"*